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Toward a Sustainable Working life for all ages - the SwAge model

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PARTNERSHIP FOR EUROPEAN RESEARCH
IN OCCUPATIONAL SAFETY AND HEALTH

6th International Conference

WELLBEING AT WORK 2022
WELLBEING IN HECTIC TIMES

13 – 15 JUNE 2022

ONLINE CONFERENCE

BOOK OF ABSTRACTS

CONFERENCE PROGRAMME

Monday, 13 June 2022

09:00 — 09:10	**Opening of the Conference**	
09:10 — 09:50	**Conference Keynote:** Living, Working and COVID-19: findings from Eurofound's e-survey on work and wellbeing following the COVID-19 pandemic **Daphne Nathalie Ahrendt, Eurofound**	
09:50 — 10:05	**Break/Networking activities**	
10:05 — 11:35	**Parallel sessions:**	

LOCAL AND GLOBAL PANDEMIC CHANGES IN WORK PRACTICE I
Chairperson: Zofia Mockałło, Central Institute for Labour Protection
- National Research Institute, Poland

10:05 — 10:20	**The work environment during corona virus epidemics and pandemics: A systematic review of studies using quantitative, qualitative and mixed methods designs** Anna Nyberg[1], Kristiina Rajaleid[2], Ingrid Demmelmaier[2] [1]Uppsala University, [2]Sweden; Stockholm University, Sweden	**WAW167**
10:20 — 10:35	**OSH in Pandemic Times** Sónia P. Gonçalves[1], Emília Telo[2], Daniela Filipa Parrinha Freitas[2], Isabel Maria Caldeira Nunes[2], Joana Vieira dos Santos[3], Maria Patrício[2], Paula Cristina Oliveira de Sousa[2], Rui Miguel Ivo Lopes[2] [1]ISCSP-ULisboa, [2]Portugal; ACT, Portugal; [3]Universidade do Algarve, Portugal	**WAW135**
10:35 — 10:50	**Areas of enduring COVID-19 prevalence: work-related influences** Cath Lewis[1], Sheena Johnson[1], Angelique Hartwig[1], Anna Coleman[1], Nicola Gartland[1], Janet Ubido[1], Amit Goakar[2], David Fishwick[3][4], Chris Armitage[1], Eleanor Roaf[1], Martyn Regan[1], Andrew Curran[5], Arpana Verma[1], Martie Van Tongeren[1] [1]University of Manchester, United Kingdom; [2]Rochdale Borough Council, United Kingdom; [3]STH NHS Foundation Trust, United Kingdom; [4]University of Sheffield, United Kingdom; [5]Health and Safety Executive, United Kingdom	**WAW136**
10:50 — 11:05	**Qualitative research in hectic times. Our methodological experience of a deep dive into public transport provision during the COVID 19 pandemic** David Fishwick[1], Karen Davies[2], Anna Coleman[2], Nicola Gartland[2], Martie Van Tongeren[2] [1]Health and Safety Executive, United Kingdom; [2]University of Manchester, United Kingdom	**WAW144**
11:05 — 11:20	**The impact of the COVID-19 epidemic on the working conditions of Icelandic municipal employees** Hjordis Sigursteinsdottir, University of Akureyri, Iceland	**WAW180**
11:20 — 11:35	**Questions & answers**	

INTERVENTION RESEARCH
Chairperson: Ed Corbett, Health and Safety Executive, United Kingdom

10:05 — 10:20	**"The right to disconnect": An intervention study to examine the effect of constant connectivity through work-emails on work-life balance, recovery, burnout and performance** Lina Siegl, Sharon Clarke, Cary Cooper, University of Manchester, United Kingdom	**WAW109**
10:20 — 10:35	**Acts of self-compassion: Mindfulness-trained female leaders' experiences of the development of self-compassionate mindset and behaviour** Laura Urrila, University of Vaasa, Finland	**WAW120**
10:35 — 10:50	**Participatory methods in intervention research: a case study in Italy** Sara Calicchia[1], Roberta Pistagni[1], Francesca Grosso[1], Chiara Colagiacomo[1], Eleonora Picco[2], Chiara Manco[2], Massimo Miglioretti[2], Stefano Signorini[1], Bruno Papaleo[1] [1]INAIL, Italy; [2]University of Milano-Bicocca, Italy	**WAW133**

| 10:50 – 11:05 | **Process evaluation of a work stress prevention approach in primary education using real-time monitoring**
Maartje Bakhuys Roozeboom[1][2][3], Irene Niks[1], Marianne van Zwieten[1], Roos Schelvis[3], Noortje Wiezer[1], Cécile Boot[2][3]
[1]Netherlands Organisation for Applied Scientific Research TNO, the Netherlands; [2]VU University, the Netherlands; [3]Amsterdam UMC, the Netherlands | WAW114 |

| 11:05 – 11:20 | **Employee perceptions of well-being interventions in the workplace**
Magdalena Gilek, Edinburgh Napier University, United Kingdom | WAW153 |

| 11:20 – 11:35 | **Questions & answers** | |

WORKPLACE HEALTH PROMOTION
Chairperson: Annette Nylund, Swedish Agency for Work Environment Expertise, Sweden

| 10:05 – 10:20 | **A systematic approach to tailor an integrated workplace health promotion program based on a European good practice**
Denise J.M. Smit[1], Sandra H. van Oostrom[1], Josephine A. Engels[2], Allard J. van der Beek[3], Karin I. Proper[1][3]
[1]Institute for Public Health and the Environment (RIVM), the Netherlands; [2]HAN University of Applied Sciences, the Netherlands; [3]Amsterdam UMC, the Netherlands | WAW106 |

| 10:20 – 10:35 | **Barriers and Facilitators for the Implementation of Workplace Health Promotion Programs – an employers' perspective**
Denise J.M. Smit[1], Jennifer M.D. Campmans[1], Sandra H. van Oostrom[1], Josephine A. Engels[2], Karin I. Proper[1][3]
[1]Institute for Public Health and the Environment (RIVM), the Netherlands; [2]HAN University of Applied Sciences, the Netherlands; [3]Amsterdam UMC, the Netherlands | WAW169 |

| 10:35 – 10:50 | **A Workplace Program to Promote Healthy Lifestyles in Microenterprises: Challenges and Results**
Roberto Moretti[1], Giuseppe Masanotti[2]
[1]ATS Bergamo, Italy; [2]ENWHP - University of Perugia, Italy | WAW139 |

| 10:50 – 11:05 | **"I got back on the bike and lost 3 kilos!" - Gains from participation in the corporate challenges using health&fitness app**
Monika Sońta[1], Jacek Mańko[1], Igor Pielas[2], Dorota Matuła[2]
[1]Kozminski University, Poland; [2]Activy App, Poland | WAW116 |

| 11:05 – 11:20 | **Musculoskeletal disease prevention: physical exercise programs at the workplace**
Mª Dolores Solé Gómez, Instituto Nacional de Seguridad y Salud en el Trabajo (INSST), Spain | WAW162 |

| 11:20 – 11:35 | **Questions & answers** | |

| 11:35 – 12:05 | **POSTER SESSION I** | |

| 12:05 – 13:00 | **Break** | |

| 13:00 – 13:40 | **Conference Keynote:** Enhancing mental capital and wellbeing at work
Professor Sir Cary Cooper, University of Manchester, United Kingdom | |

| 13:40 – 14:55 | **Parallel sessions** | |

BURNOUT
Chairperson: Ed Corbett, Health and Safety Executive, United Kingdom

| 13:40 – 13:55 | **Does Effort-Reward Imbalance predict occupational burnout? Findings from the prospective COLAUS¦PSYCOLAUS cohort (2004–2020)**
Yara Shoman[1], Ranjbar Setareh[2], Marie-Pierre Strippoli[2], Martin Preisig[2], Irina Guseva Canu[1]
[1]Unisanté, University of Lausanne, Switzerland; [2]CHUV, Switzerland | WAW190 |

| 13:55 – 14:10 | **Three-Wave Cross-Lagged Study on the Health Impairment Process among Polish Human Service Workers**
Łukasz Baka, Łukasz Kapica, Andrzej Najmiec, Central Institute for Labour Protection - National Research Institute, Poland | WAW209 |

| 14:10 – 14:25 | **What factors influence worker's exhaustion? A meta-analysis of longitudinal studies**
Yara Shoman[1], Valentin Rousson[1], Renzo Bianchi[2], Irina Guseva Canu[1]
[1]Unisanté, University of Lausanne, Switzerland; [2]University of Neuchâtel, Switzerland | WAW191 |

| 14:25 – 14:40 | **Burnout in Polish lawyers - latent profile analysis**
 Teresa Chirkowska-Smolak, Adam Mickiewicz University, Poland | WAW188 |

14:40 – 14:55   **Questions & answers**

NEW MEASURES OF WELLBEING
Chairperson: Irina Guseva Canu, Unisanté, University of Lausanne, Switzerland

| 13:40 – 13:55 | **Well-being of workers at construction sites in Japan – A preliminary survey for evaluating validity of well-being scales**
 Chiemi Kan[1], Yuka Koremura[2], Shoken Shimizu[1], Rieko Hojo[3]
 [1]JNIOSH, Japan; [2]Ballast, Japan; [3]Nagaoka University of Technology, Japan | WAW150 |

| 13:55 – 14:10 | **NIOSH Worker Well-Being Questionnaire (WellBQ)**
 Chia-Chia Chang[1], Ramya Chari[2], Steven L. Sauter[3], Elizabeth L. Petrun Sayers[2], Wenjing Huang[2], Gwenith G. Fisher[4][5]
 [1]National Institute for Occupational Safety and Health (NIOSH), USA; [2]RAND Corporation, USA; [3]Advanced Technologies and Laboratories International, Inc, USA; [4]Colorado State University, USA; [5]Colorado School of Public Health, USA | WAW197 |

| 14:10 – 14:25 | **Thriving from Work: the development of a novel measure of work-related wellbeing**
 Susan E Peters[1], Daniel A Gundersen[2], Glorian Sorensen[1], Gregory R Wagner[1]
 [1]Harvard T.H. Chan School of Public Health, USA; [2]Dana-Farber Cancer Institute, USA | WAW163 |

| 14:25 – 14:40 | **An innovative application in the method of System Dynamics that captures relative changes in determinants of workplace wellbeing to develop more personalized interventions**
 Teun Sluijs, Sebastiaan Deuten, Irene Niks, Marianne van Zwieten, Heleen Wortelboer, Netherlands Organisation for Applied Scientific Research TNO, the Netherlands | WAW172 |

14:40 – 14:55   **Questions & answers**

HEALTH IMPAIRMENTS AND DISABILITY
Chairperson: Vincent Grosjean, Institut national de recherche
et de sécurité (INRS), France

| 13:40 – 13:55 | **Work ability and sick leave among teachers with hearing loss**
 Arnold Schriemer[1][2], Ute Bültmann[2], Femke Abma[2], Corné Roelen[1][2]
 [1]Arbo Unie the Netherlands; [2]University of Groningen, the Netherlands | WAW170 |

| 13:55 – 14:10 | **Job demands, resources, coping strategies and impression management for workers on the autistic spectrum:** A qualitative study
 Leah R. Derham-Boyce, Sheffield University Management School, United Kingdom | WAW193 |

| 14:10 – 14:25 | **The influence of the onset of a disease on exit from paid employment among workers in The Netherlands: A longitudinal register-based study with 9 years follow-up**
 Ross W. Hijdra, S.J.W. Robroek, A. Burdorf, M. Schuring, Erasmus MC, the Netherlands | WAW145 |

| 14:25 – 14:40 | **Does a multidisciplinary intervention, with or without workplace intervention, have an impact on pain, functional status and return to work in employees suffering from (sub)acute low back pain? A systematic review**
 Lisa Bernaers[1], Elise Cnockaert[1], Lutgart Braeckman[1], Philippe Mairiaux[2], Olivier Poot[3], Tine Marieke Willems[1]
 [1]Ghent University, Belgium; [2]University of Liège, Belgium; [3]Federal Agency of Occupational Risks, Belgium | WAW105 |

14:40 – 14:55   **Questions & answers**

14:55 – 15:10   **Break**

15:10 – 16:40   **SYMPOSIUM: HEALTHY WORKPLACES AS A PATHWAY THROUGH HECTIC TIMES**
Co-Moderators: Cristina Banks and Christina Maslach, University of California, USA

| | **Important Organizational Features for Health, Well-Being and Productivity**
 Siw Tone Innstrand[1], Ragnhild Wiik[2], Cristina Maslach[3], Marit Christensen[1], Cristina Banks[3]
 [1]NTNU Norway; [2]BI Stavanger, Norway; [3]University of California, USA | WAW211 |

| | **The Physical Environment Role in Healthy Workplaces**
 Sally Augustin, University of California, USA | WAW212 |

Antidotes to the Great Resignation   WAW213
L. Alan Witt[1], Cristina Banks[2]
[1]University of Houston, USA; [2]University of California, USA

The Burnout Challenge: Improving the Relationship Between Workers   WAW214
and the Workplace
Christina Maslach[1], Michael P. Leiter[2]
[1]University of California, USA; [2]Acadia University, Canada

16:40 — 16:45   Closing day 1

Tuesday, 14 June 2022

09:00 — 09:40   Conference Keynote: Industry 5.0: a viable strategy for well-being at work
in hectic times?
Professor Steven Dhondt, Netherlands Organisation for Applied Scientific Research
TNO and KU Leuven, the Netherlands

09:40 — 11:10   SYMPOSIUM: WORKPLACE INNOVATION FOR WELLBEING IN TIMES OF DIGITAL TRANSITION
Moderator: Frank Pot, Radboud University, the Netherlands

Workplace innovation, smartization, and wellbeing: focused on industrial   WAW215
accidents in manufacturing industry
Se Ri No[1], Yongjin Nho[2]
[1]Korea Labor Institute, South Korea; [2]Seoul National University of Science
and Technology, South Korea

Augmented telework with avatar technology: Impact on workplace   WAW216
and required actions
Kentaro Watanabe, National Institute of Advanced Industrial Science
and Technology, Japan

Work design and wellbeing in the context of digital change   WAW217
Sharon Parker, Curtin University, Australia

Divergence or convergence in management approaches of workplace innovation? WAW218
Peter Oeij, Netherlands Organisation for Applied Scientific Research TNO,
the Netherlands

Digital transformations of traditional work in the Nordic countries   WAW219
Tuomo Alasoini, Finnish Institute of Occupational Health

11:10 — 11:25   Break/Networking activities

11:25 — 12:40   Parallel sessions

PHYSICAL WORKING CONDITIONS
Chairperson: Joanna Orysiak, Central Institute for Labour Protection
– National Research Institute, Poland

11:25 — 11:40   Reduction of thermal stress for improvement of construction workers well-being   WAW187
Anna Dąbrowska[1], Monika Kobus[1], Piotr Dymarski[1]
[1]Central Institute for Labour Protection – National Research Institute, Poland;
[2]MOSTOSTAL Warszawa S.A., Poland

11:40 — 11:55   The technological evolution of buses and its impact on the drivers' health   WAW183
and wellbeing
Viviane Remy, David Vernez, Irina Guseva Canu, Unisanté, University of Lausanne,
Switzerland

11:55 — 12:10   Relationship between different profiles of Night/Shift work exposure   WAW122
and Health-Related Quality of Life
Maud Gédor[1], Eve Bourgkard[1], Mathieu Dziurla[1], Celine Ribet[2], Guy Hédelin[1],
Stephanie Boini[1]
[1]Institut national de recherche et de sécurité (INRS), France; [2]Inserm, France

12:10 — 12:25   Questions & answers

PSYCHOSOCIAL WORKING CONDITIONS I
Chairperson: Zofia Mockałło, Central Institute for Labour Protection
- National Research Institute, Poland

Time		
11:25 – 11:40	**Can psychosocial job resources buffer the relation between occupational physical activity and heart rate variability?** Margo Ketels, Alisé Tack, Els Clays, Ghent University, Belgium	WAW130
11:40 – 11:55	**Cognitive job demands in three sectors – commonalities and disparities** Laura Bordi, Sanna Nuutinen, Kirsi Heikkilä-Tammi, Tampere University, Finland	WAW146
11:55 – 12:10	**A Bayesian network analysis of psychosocial work environment conditions in COVID-19 scenario** Igor Portoghese, Federico Meloni, Marcello Campagna, University of Cagliari, Italy	WAW123
12:10 – 12:25	**Motivation profiles in supporting teachers' wellbeing and brain health** Päivi Mayor, Tampere University of Applied Sciences, Finland	WAW202
12:25 – 12:40	**Questions & answers**	
12:40 – 13:10	POSTER SESSION II	
13:10 – 14:10	**Break**	
14:10 – 14:50	**Conference Keynote:** A Life Course Approach to Young adults' mental health and early working lives **Professor Ute Bültmann, University of Groningen, the Netherlands**	
14:50 – 16:20	**Parallel sessions**	

LOCAL AND GLOBAL PANDEMIC CHANGES IN WORK PRACTICE II
Chairperson: Noortje Wiezer, Netherlands Organisation for Applied Scientific
Research TNO, the Netherlands

Time		
14:50 – 15:05	**Negative Employment Changes during the COVID-19 Pandemic and Well-being in U.S. Workers: Substructures of Intersectional Vulnerability in Happiness and Sleep Quality** Timothy A. Matthews, Jian Li, University of California, USA	WAW179
15:05 – 15:20	**Perceived job quality matters: differential trajectories of reported psychosomatic symptoms during the COVID-19 pandemic** Inés Tomas, Ana Hernández, Vicente González-Romá, Marija Davcheva, University of Valencia, IDOCAL, Spain	WAW157
15:20 – 15:35	**Psychosocial safety climate and organizational measures to reduce psychosocial risks during the COVID-19 pandemic:** An exploratory analysis of human resources advisors of Quebec's health and social care establishments Caroline Biron[1], Nektaria Nicolakakis[2], Mariève Pelletier[2], Roxanne Beaupré[2], Michel Vézina[1,2] [1]Université Laval, Canada; [2]Institut national de santé publique du Québec, Canada	WAW175
15:35 – 15:50	**Working from anywhere: Balancing the tension between wellbeing and work engagement during Covid-19** Adesuwa Omorede, Rachael Tripney Berglund, Tomas Backström, Mälardalen University, Sweden	WAW199
15:50 – 16:05	**Gendered realities during Covid-19 in Iceland: Compromises among working parents** Valgerður S. Bjarnadóttir[1], Andrea Hjálmsdóttir[2] [1]University of Iceland, Iceland; [2]University of Akureyri, Iceland	WAW195
16:05 – 16:20	**Questions & answers**	

INTEGRATED APPROACHES TO WELLBEING
Chairperson: Mª Dolores Solé Gómez, Instituto Nacional de Seguridad y Salud
en el Trabajo (INSST), Spain

Time		
14:50 – 15:05	**Well-Being in the New Era of the World of Work** Sara L. Tamers, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, USA	WAW102

| 15:05 — 15:20 | **Sustainable employability to innovate the organization of work**
Francesca Grosso[1], Chiara Colagiacomo[1], Roberta Pistagni[1], Sara Calicchia[1],
Stefano Signorini[1], Bruno Papaleo[1], Massimo Miglioretti[2],
Eleonora Picco[2], Chiara Manco[2]
[1]INAIL, Italy; [2]Bicocca University of Milan, Italy | **WAW110** |

| 15:20 — 15:35 | **Organizational factors linked to good health and well-being:**
perspectives from Sweden
Petra Lindfors, Stockholm University, Sweden | **WAW173** |

| 15:35 — 15:50 | **Providing a safe place to express needs and tensions with drama-based**
interventions, a way to process to healthier workplaces
Vincent Grosjean, Institut national de recherche et de sécurité (INRS), France | **WAW166** |

| 15:50 — 16:05 | **Wellbeing at work and its relationship to contextual performance among IT workers**
in Covid-19 era
Karin Reinhold, Marina Järvis, Jelena Hartšenko, Tallinn University
of Technology, Estonia | **WAW201** |

| 16:05 — 16:20 | **Questions & answers** | |

MENTAL HEALTH
Chairperson: Dorota Żołnierczyk-Zreda, Central Institute for Labour Protection
– National Research Institute, Poland

| 14:50 — 15:05 | **Ethical dilemmas and well-being in teachers' work: A three-way, two-year**
longitudinal study
Mikko Heikkilä, Saija Mauno, Mari Herttalampi, Jaana Minkkinen, Joona Muotka,
Taru Feldt, Unversity of Jyväskylä, Finland | **WAW186** |

| 15:05 — 15:20 | **Growth mindset and life and job satisfaction: the mediatory role of stress**
Blanka Kondratowicz, Dorota Godlewska-Werner, Aleksandra Peplińska,
University of Gdańsk, Poland | **WAW141** |

| 15:20 — 15:35 | **Just-in-time adaptive interventions for dealing with work stress and fatigue**
Marianne van Zwieten, Irene Niks, Gerben Hulsegge, Hardy van de Ven,
Netherlands Organisation for Applied Scientific Research TNO, the Netherlands | **WAW115** |

| 15:35 — 15:50 | **In search of effective interventions to reduce mental health problems**
in the workplace: an overview of systematic reviews and meta-analysis
Annie Barreck, Marie-Ève Blanc, Alain Marchand, University of Montreal, Canada | **WAW200** |

| 15:50 — 16:05 | **Effort-reward imbalance at work and risk of major depressive episode:**
a cohort study in the U.S.
Jian Li, Timothy A. Matthews, University of California, USA | **WAW178** |

| 16:05 — 16:20 | **Questions & answers** | |
| 16:20 — 16:25 | **Closing day 2** | |

Wednesday, 15 June 2022

| 09:00 — 09:40 | **Conference Keynote:** Psychosocial safety climate as a leading indicator
of wellbeing at work
Professor Maureen F. Dollard, University of South Australia, Australia | |

| 09:40 — 11:10 | **Parallel sessions** | |

MENTAL HEALTH IN THE COVID-19 PANDEMIC
Chairperson: Petra Lindfors, Stockholm University, Sweden

| 09:40 — 09:55 | **The impact of the COVID-19 pandemic on psychosocial work factors**
and emotional exhaustion among workers in the healthcare sector:
a longitudinal study among 1,777 Dutch workers
Fleur van Elk[1], Suzan JW Robroek[1], Alex Burdorf[1], Karen M Oude Hengel[1,2]
[1]Erasmus University Medical Center, the Netherlands; [2]Netherlands Organisation
for Applied Scientific Research TNO, the Netherlands | **WAW155** |

| 09:55 – 10:10 | **Vicarious traumatization, mental health, and coping strategies among nurses during COVID-19 outbreak**
Maura Galletta[1], Vanessa Usai[2], IleniaPiras[2]
[1]University of Cagliari, Italy; [2]ATS Sardegna, Italy | WAW189 |

| 10:10 – 10:25 | **Social support at work and posttraumatic growth during the COVID-19 pandemic: the mediating role of emotional regulation and sensemaking**
Marija Davcheva, Ana Hernández, Inés Tomas, Vicente González-Romá,
University of Valencia, Spain | WAW174 |

| 10:25 – 10:40 | **Cases of mental crises and psychosocial risk in essential workers**
Agata Krasowska, University of Wroclaw, Poland | WAW198 |

| 10:40 – 10:55 | **Risk factors for the presence of a high need for recovery, stress complaints and burnout symptoms during mandatory home work in the Covid-19 pandemic lockdown in university staff**
Philippe Kiss, Marc De Meester, Securex Occupational Health Service and Ghent University, Belgium | WAW111 |

| 10:55 – 11:10 | **Questions & answers** | |

DIVERSITY AND WELLBEING IN DIFFERENT GROUPS
Chairperson: Ina Schöllgen, Federal Institute for Occupational Safety
and Health (BAuA), Germany

| 09:40 – 09:55 | **Toward a sustainable working life for all ages – the swAge-model**
Kerstin Nilsson, Kristianstad University and Lund University, Sweden | WAW128 |

| 09:55 – 10:10 | **How young adults experience working life: A quest for meaningfulness, work-life balance and person-environment fit**
Iris Arends, Karin Veldman, Marieke Haan, Ute Bültmann, University of Groningen, the Netherlands | WAW138 |

| 10:10 – 10:25 | **Work Well-Being in Expats: Investigating Developmental Trajectories of Energy Continuum**
Tania Biswas, Liisa Mäkelä, Samu Kemppinen, University of Vaasa, Finland | WAW121 |

| 10:25 – 10:40 | **Team composition matters: how psychosocial demands and team resources affect wellbeing**
Katrin Leifels, Rita Zhang, RMIT University, Australia | WAW131 |

| 10:40 – 10:55 | **Multiple job-holders and well-being – intragroup analysis of the phenomenon**
Agnieszka Lipińska-Grobelny, University of Łódź, Poland | WAW103 |

| 10:55 – 11:10 | **Questions & answers** | |

NEW WAYS OF WORKING
Chairperson: Noortje Wiezer, Netherlands Organisation for Applied Scientific
Research TNO, the Netherlands

| 09:40 – 09:55 | **'Building better workplaces': practices of well-being in self-managing organisations**
Riitta-Liisa Larjovuori, Ismo Kinnari, Kirsi Heikkilä-Tammi, Tampere University, Finland | WAW159 |

| 09:55 – 10:10 | **Work organization and working conditions of platform workers: Challenges for safety, health and wellbeing at work**
Lena Hünefeld, Sophie-Charlotte Meyer, Nils Backhaus, Federal Institute for Occupational Safety and Health, Germany | WAW137 |

| 10:10 – 10:25 | **New forms of work, psychosocial working conditions and workers' wellbeing**
Zofia Mockałło, Paulina Barańska, Central Institute for Labour Protection – National Research Institute, Poland | WAW206 |

| 10:25 – 10:40 | **Key challenges affecting the mental health of startup founders and entrepreneurs**
Christine Ipsen[1], Cecilie Willer[2], Lolo XinChen[3], Maria Karanika-Murray[4]
[1]DTU Management, Denmark; [2]Today.io, Denmark; [3]The World Bank Group, Denmark;
[4]NTU, United Kingdom | WAW154 |

| 10:40 – 10:55 | **Work well-being in the startup scene from a gender perspective**
Katri Pöllänen, University of Helsinki, Finland | WAW112 |

| 10:55 – 11:10 | **Questions & answers** | |

| 11:10 – 11:25 | **Break/Networking activities** | |

11:25 – 12:15	**Nominees for the Young Researcher Award**	
	"The right to disconnect": An intervention study to examine the effect of constant connectivity through work-emails on work-life balance, recovery, burnout and performance Lina Siegl, University of Manchester, United Kingdom	**WAW109**
	Does Effort-Reward Imbalance predict occupational burnout? Findings from the prospective COLAUS¦PSYCOLAUS cohort (2004-2020) Yara Shoman, Unisanté, University of Lausanne, Switzerland	**WAW190**
	The impact of the COVID-19 pandemic on psychosocial work factors and emotional exhaustion among workers in the healthcare sector: a longitudinal study among 1,777 Dutch workers Fleur van Elk, Erasmus University Medical Center, the Netherlands	**WAW155**
	Job demands, resources, coping strategies and impression management for workers on the autistic spectrum: A qualitative study Leah Derham-Boyce, Sheffield University Management School, United Kingdom	**WAW193**
12:15 – 13:30	**Parallel sessions**	
	LEADERSHIP & ORGANIZATIONAL FACTORS Chairperson: Marja Känsälä, Finnish Institute of Occupational Health, Finland	
12:15 – 12:30	**The art of staying in touch – Exploring daily feedback interactions between a leader and a subordinate in remote work** Hilpi Kangas, <u>Johanna Jansson</u>, University of Vaasa, Finland	**WAW182**
12:30 – 12:45	**Leading brainwork: Relationship between supportive supervisor, cognitive strain and wellbeing at work** <u>Liisa Mäkelä</u>[1][2], Samu Kemppinen[2], Virpi Kalakoski[1], Heidi Lahti[1], Teppo Valtonen[1] [1]Finnish Institute of Occupational Health, Finland; [2]University of Vaasa, Finland	**WAW126**
12:45 – 13:00	**Are CEOs Encouraged to Take Too Much Risk?** Justin Chircop[1], Monika Tarsalewska[2], <u>Agnieszka Trzeciakiewicz</u>[3] [1]Lancaster University Management School, United Kingdom; [2]University of Exeter Business School, United Kingdom; [3]Hull University Business School, United Kingdom	**WAW113**
13:00 – 13:15	**A healthy and good working environment drives technical innovation and productivity** <u>Annette Nylund</u>[1][2][3], Matti Kaulio[2], Hans-Olof Hagén [1]Swedish Agency for Work Environment Expertise, Sweden; [2]KTH Royal Institute of Technology, Industrial Economics and Management Sweden; [3]Luleå University of Technology, Sweden	**WAW165**
13:15 – 13:30	**Questions & answers**	
	PSYCHOSOCIAL WORKING CONDITIONS II Chairperson: Barbara Huber, AUVA, Austria	
12:15 – 12:30	**Supporting Healthcare Teams using Psychosocial Risk Management Interventions** <u>Carroll Nodlaig</u>, Health Service Executive, Ireland	**WAW203**
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OSH in Pandemic Times

Sónia P. Gonçalves[1], Emília Telo[2], Daniela Filipa Parrinha Freitas[2], Isabel Maria Caldeira Nunes[2],
Joana Vieira dos Santos[3], Maria Patrício[2], Paula Cristina Oliveira de Sousa[2], Rui Miguel Ivo Lopes[2]

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The COVID-19 pandemic is presenting unprecedented consequences around the world, more so on the countries' health and economic systems. The economic and social disruption that ensued has led to the need for companies to adapt to this new reality, in order to manage governmental decision-making (e.g., enforcement of mandatory telework). The occupational safety and health (OSH) areas played a key role in managing and containing the pandemic. In order to systematise this area's contributions, the project OSH in Pandemic Times (SST em tempo de pandemia) is being developed by a multidisciplinary team. This project has two phases, the first being descriptive and the second qualitative (by means of interviews). The objectives of this study were to describe the practices implemented by Portuguese organisations to manage the pandemic and its impacts on OSH and to share the good practices taking place at organisations. This presentation will focus on the second phrase. Results suggest that the pandemic had a significant impact on most companies and that even though they were not especially prepared for it, they have adapted well. Moreover, they also reveal that the companies maintained a reactive type of compliance towards the legislation and regulations arising from the pandemic, thus denoting less focus on psychological and emotional health and on practices that go beyond legal obligations. It is possible to conclude that the pandemic has increased organisations' attention to the issues of safety and health, but there is still a long way to go before most companies present a solid and strong OSH culture. This reinforces the importance of investing in training and organisational learning. The exceptional moment we are living through needs to be analysed and reflected upon, so this project will contribute with knowledge about how to manage OSH in times of crisis.

Areas of enduring COVID-19 prevalence: work-related influences

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Introduction: UK local authorities that experience sustained high levels of COVID-19 are termed areas of enduring prevalence (AEP) according to UK Scientific Advisory Group for Emergencies (SAGE) in 2021. A study was thus carried out as part of the PROTECT National Core study on Transmission and Environment, to investigate underlying reasons for sustained high prevalence in these areas, including the role of workplace.

Methods: Interviews were conducted with Directors of Public Health (DsPH) in 19 local authority areas across England, between July and November 2021. This included nine areas identified as AEP and ten 'comparison' areas (CA), to gain a better understanding of why certain areas experience sustained prevalence. An analysis of the differences between the AEP and CA on a range of indicators including deprivation, ethnicity, overcrowded households, and factors related to employment was also conducted. All DsPH were asked what they thought were factors contributing to enduring prevalence.

Results: Participants identified various factors associated with higher, prolonged prevalence rates, including high deprivation levels, overcrowded housing, and low vaccination rates. Deprivation and employment were often jointly discussed as creating major barriers for people to financially afford to self-isolate or to work remotely. Residents who did not receive sick pay, were on zero hours contracts or in insecure employment were less likely to be able to self-isolate.

There were strong similarities in the key drivers of prevalence described by the DSPH in AEP and CA. All participants asserted that there were differences in these factors between different wards or geographical areas within their local authority, and between different groups, including people from different age groups and different ethnic backgrounds. Many participants emphasised that the interaction of various factors contributed to enduring prevalence. Participants in the AEP were more likely to discuss the impact of structural factors such as deprivation, and the impact of factors such as residents being unable to self-isolate due to lack of sick pay or work insecurity.

Conclusion: The research suggests that deprivation and other demographic factors, as well as employment, housing, and vaccination rates, are key drivers of COVID-19 prevalence. Work related factors such as insecurity and low / variable pay and absence of sick pay may influence behaviours and increase the risk of virus transmission. This can potentially negatively impact physical health in terms of increased risk of virus transmission, and relatedly have a detrimental impact on workplace wellbeing. None of the DsPH were confident how exactly contributing factors interacted and advised that more research is needed to gain insight on the factors that drive prevalence and the effectiveness of mitigation strategies.

Qualitative research in hectic times. Our methodological experience of a deep dive into public transport provision during the COVID 19 pandemic

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Background: Workplaces were identified as potentially important for viral transmission in the global SARS CoV-2 pandemic. It was hypothesised that contact between the public and workers in certain occupations, such as public transport, was an important transmission route. Changes were rapidly introduced in the UK public transport sector that could have had both positive and negative influences on worker wellbeing. We worked at pace to collect qualitative data from the sector, to complement the quantitative data collection of others. We felt our research methods had to differ from typical qualitative approaches. This paper thus describes the rapid development of a comprehensive and fit for purpose qualitative research study method.

Methods: We realised that a "typical" qualitative research approach would need significant adaptation as timelines for the research delivery were tight, and transport guidance was constantly changing. Eight basic steps were deployed. (i) Establishing partnerships with stakeholders from the sector: this had to be rapidly carried out, and a snowballing technique was invaluable to identify those with a lived experience of managing the problems of COVID-19 in the workplace. (ii) Co-creating the research design: regular and direct contact with stakeholders was essential in setting priorities, agreeing aims, discussing data collection and linking researchers with and key groups. (iii) Gaining an ethical review that was comprehensive, but also permitted flexibility. Regular communication with the ethics team was key in enabling this, allowing an agreement with sufficient flexibility to the research content to accommodate these steps. (iv) Designing semi-structured interviews for gathering data from stakeholders; these were rapidly co-created with sector specialists to ensure relevance, at the same time as further sector engagement was happening. (v) Recruiting appropriate participants: we adopted a staged approach so initial interviewees provided a route into transport user and employee groups. (vi) Conducting interviews via video calls, followed by immediate informal analysis. This aided rapid feedback with stakeholders in advance of formal transcription. (vii) Detailed analysis of the interviews was carried out using thematic analysis to identify themes and subthemes as the study progressed. These were then revised and refined following discussion with stakeholders prior to finalising outputs. (viii) Synthesis of the findings involved a continual process of sense checking with stakeholders, integrating new data from research and industry, and drawing on experts to enable interpretation based on experience and knowledge of practice and research.

Conclusion: We were able to rapidly undertake a co-created multi stakeholder project to assess perceptions of transmission risk of SARS-CoV-2 and mitigating factors to reduce transmission. Key to the success of the research was rapid and continued stakeholder engagement, from co-creation of the essential research questions through to interpreting findings in a context of uncertainty and change that the COVID-19 pandemic presented.

The impact of the COVID-19 epidemic on the working conditions of Icelandic municipal employees

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Working from home during the COVID-19 pandemic was a message sent by the government to stop the spread of the epidemic. This cross-sectional study aimed to investigate the changed working conditions of Icelandic municipal employees due to the COVID-19 pandemic. An online survey was conducted in May 2021 among employees of 14 municipalities in Iceland. The questionnaire was sent to 8,049 employees and after three reminders, 4,980 answered the questionnaire partially or in full. Response rate was 62%. The findings showed that 20% of municipal employees reported changes directly affecting their work due to the COVID-19 epidemic, mainly assigned new task within their department (43%) or increased workload (37%). By directly asking whether the workload has increased, decreased, or remained the same due to COVID-19 epidemic, 65% of employees answered that the workload has increased, 3% decreased and 32% remained the same. About 59% of the employees have been working from home, in part or in full. About 21% answered that in their line of work, working from home was not possible even if a pandemic like COVID-19 occurs, mainly kindergarten teachers and carers of the elderly and carers of disabled people. The COVID-19 pandemic led to a change in the working practice of many municipal employees, some were able to work from home, but others could not, but the main change was that the workload of the employees increased significantly. It is important for managers and those who are responsible for health and well-being at work to carefully consider how to respond to these results, as the increased workload, in the long run, can have detrimental consequences for employees.

The right to disconnect: An intervention study to examine the effect of constant connectivity through work-emails on work-life balance, recovery, burnout and performance

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Objective: Recent legislation has introduced the "right to disconnect" for workers in certain European countries. However, an evidence base for such organisational changes, in the form of rigorous longitudinal intervention research, appears largely absent. This study aimed to evaluate the effectiveness of an organisational intervention targeting email-related techno-stress and constant connectivity to work. Additionally, the mediating role of six ICT-stressors in the relationship between employee participation in the intervention and employee strain and performance outcomes was examined.

Method: A set of new email guidelines was introduced across 16 teams and one department of a large public sector organisation during a 6-week quasi-experimental participative intervention. Data were collected at four time points in both the experimental (N= 101) and the waitlist control group (N= 75) and analysed using latent growth curve modelling (LGCM).

Result: All six e-mail stressors significantly reduced in the experimental group when compared to baseline levels, while no significant change was found in the control group. LGCM results demonstrated that being part of the intervention led to a significant decrease in e-mail monitoring frequency outside of working hours (EMF), techno-overload and techno-invasion. Furthermore, the intervention was effective in significantly improving employee psychological detachment, burnout symptoms (physical and cognitive exhaustion, but not emotional exhaustion), work-home conflict and subjective performance evaluations. Parallel process analysis revealed that the reduction in techno-stressors (overload and invasion) mediated the effects of the intervention on all employee outcomes except emotional exhaustion, while EMF mediated the relationship between the intervention and employee's subjective performance ratings. Lastly, the reduction in burnout symptoms was found to mediate the negative relationship between techno-overload and performance.

Conclusion: The current intervention was effective in reducing email-related stress and constant connectivity to work, which subsequently improved employee strain and performance outcomes. The findings not only highlight the beneficial effect of introducing rules that determine certain ways in which workers engage with their e-mails (i.e., emailing hours/days), but also the influence of team managers and senior leaders in shaping a more positive email culture. Numerous studies have demonstrated that sustained activation and constant connectivity to work through ICT not only interferes with workers home lives but can also have detrimental effects on employee mental and physical health. The current results provide support for the "right to disconnect" and offer a first step towards an evidence-based approach to managing the adverse effects of work-related ICT within organisations.

Future research shall explore the effectiveness of email stress interventions in more diverse workplaces for example, those operating within the private sector or via global virtual teams. Additionally, whether interventions differ in effectiveness depending on workers segmentation preferences remains to be explored.

Acts of self-compassion: Mindfulness -trained female leaders' experiences of the development of self-compassionate mindset and behaviour

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Research shows that leader self-compassion, defined as 'a mindset in which a leader takes a supportive, kind, and non-judgmental stance toward himself or herself in relation to challenges faced in a leader role', can bring about psychological and organisational benefits, like strengthen leader identity and lead to helping behaviour (Lanaj et al., 2021: 1). The ability to take care of yourself can make you a better leader, but in hectic times, self -care may seem like a distant utopia for a female leader faced with responsibilities of both work and private life. Research suggests that women tend to be slightly harsher on themselves than their male counterparts (Yarnell et al., 2015), which could leave female leaders disadvantaged. According to Neff (2003b), self-compassion entails three main components: self-kindness, common humanity, and mindfulness. Self-compassion and mindfulness closely knit together may form a continuous leader self-development practice, but, to date, expressions of self -compassion in workplace settings and development of self-compassion through organisational mindfulness interventions remain under-researched.

Taking a longitudinal qualitative approach and an all-female sample, we set out to investigate how a mindfulness intervention contributes to the development of leaders' self-compassionate mindset and practices as an individual resource of female leaders. We study the experiences of 49 female organisational leaders who participated in an eight-week mindfulness training. The material comprises pre-intervention assessments and a total of 133 interviews conducted across the timespan of one year, immediately post-intervention and at six - and twelve-month follow-up points.

Our initial findings show how mindfulness learnings and practice helped leaders adopt a self-compassionate mindset and establish self-care practices that the leaders found also enabled leading others. We identified processes that seem to aid development of leaders' self-care practices and help maintain them in the long term, including enhanced awareness of one's intrinsic motivation for wellbeing and growth, active self-reflection of difficult experiences, and a grateful attitude towards the experienced positive outcomes of the intervention.

This study contributes to the literature on self-compassion and leadership by increasing conceptual understanding of self-compassion and self-care in the leadership context, and by offering unique empirical insight into the longitudinal, processual influences of leader mindfulness training.

Parallel session: INTERVENTION RESEARCH

Abstract WAW133

Participatory methods in intervention research: a case study in Italy

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Introduction: The paper presents an intervention and participatory research model based on coaching and facilitation, not yet widespread in the field of social research. The adoption of these approaches in Health and Safety sector can raise workers' awareness and enable them to control the determinants of health, increasing their psychophysical well-being in a salutogenic perspective. This has long been recalled by various international organisations (WHO, NIOSH) and, recently, by the concept of sustainable employability, based on Amartya Sen capability approach.

Objectives: In order to detect and develop the factors that enhance sustainable employability a pilot project is being carried out in an Italian company of excellence by researchers from INAIL and University of Milano -Bicocca. On behalf of the research group two short papers are submitted at the conference: one, focused on sustainable employability theoretical model, and this one, on the participatory action research method.

Methodology: The facilitator uses techniques of visualisation of writing and images to help people to produce ideas and visions, define objectives and action plans and take shared decisions in short time. On the other hand, coaching fosters reflection, awareness and motivation at individual and group level, helping to specify the objectives and making the action plan clear and meaningful for everyone. Coaching is isomorphic to the object of study, as sustainable employability seeks the meeting point between individual and organisational well-being, and coaching is capable to find this point allowing individuals and groups to achieve a goal that is as significant to them as it is important to the company

Results and discussion: The ongoing research, started in June 2021, will be concluded in June 2022. During the conference the following results are foreseen to be presented:
- Macro-phases of intervention research: design and output
- Comparison between online and face-to-face workshops
- Participatory measurement of sustainable employability
- Future research perspectives

Process evaluation of a work stress prevention approach in primary education using real-time monitoring

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Background: Since work stress prevention approaches are at risk to implementation failure, process evaluations are increasingly considered an important aspect of intervention research in this field. A weakness of common process evaluations is that the evaluation often takes place after the implementation of the intervention. This challenges the identification of implementation hindrances due to recall bias. Real-time monitoring of the implementation process combined with feedback of this data to implementers reduces the risk of recall bias, and provides the opportunity to take action when hindrances occur, reducing the risk of implementation failure. In our presentation we will present the results of a process evaluation of a work stress prevention approach in primary education that included real-time monitoring of the implementation process and discuss the relevance of this method.

Methods: The process evaluation is conducted alongside a controlled trial at four primary schools in the Netherlands, and designed in accordance with the framework for evaluating organisational-level interventions of Nielsen and Randall (2013) using mixed methods. Real-time monitoring data of the implementation process are collected with monthly EMA-measurement. Other quantitative data are collected with questionnaires at baseline and two years of follow up. Qualitative data are collected by means of interviews and data logs.

Results: In total, 8 interviews have been conducted; 89 (87%), 84 (78%) and 55 (49%) employees responded to respectively the baseline, one-year and two-year follow up questionnaires; between 30 (28%) and 55 (50%) employees participated in each of the real-time monitoring measurements. Preliminary results suggest that the implementation of the approach differed per school, and some of the implementation factors fluctuated over time whereas others remained relatively stable. At the conference the analysed results are presented and the use of real-time monitoring of the implementation process is discussed.

Employee perceptions of well -being interventions in the workplace

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Today mental health and work-related stress continue to be a concern for individuals and organisations. A 2021 report by Health and Safety Executive in the UK revealed that the rate of self-reported work-related stress, depression and anxiety has shown signs of increasing when compared to pre-pandemic levels, and accounted for 50% of all work-related ill-health (HSE, 2021). On a positive side, in a survey carried out by CIPD, more and more organisations are now taking steps to support mental health and address work-related stress (CIPD, 2020).

Indeed, the evidence shows that today more organisations than ever offer interventions to promote mental health and well-being at work. Most current approaches focus on enhancing individual resources and creating an environment that is more health conscious for all employees (Richardson, 2017). Interventions such as practicing resilience, mindfulness or meditation are increasingly more common and often branded as a one -size-fits-all approach. For example, the evidence shows that training aimed at building personal resilience (such as coping techniques and mindfulness) increased in the UK from 16% in 2015 to 33% in 2020 (CIPD, 2020). While this increased interest in employee mental health is encouraging, to date there is limited evidence on the effectiveness of these interventions and how employees may benefit from various approaches.

Earlier evidence on the effectiveness of interventions aimed at enhancing personal resources is mixed. Some critics examining mindfulness found that not all individuals benefit from its practice and others may suffer negative effects (e.g. Sedlmeier et al. 2012). Also, there is a concern in relation to how some of the well-being interventions are utilised by employers and individuals with little formal training in mental health (Farias & Wikholm, 2016), and how interventions aimed at enhancing personal resources are advertised by employers as the techniques of choice when dealing with stress at work. Finally, the last decade has seen new social and economic challenges, and the emergence of increasingly lean organisations that reward individuals who work exceptionally hard and are connected to the organisation 24/7 via various technologies (Reyt & Wiesenfeld, 2015), but it is not clear to what extent current approaches to support mental health at work address these new challenges.

Against this background, the present study aims to explore employee perceptions of employer-led interventions that are intended at supporting their mental health and well-being. The study is based on qualitative research design and includes semi-structured interviews with employees and managers, complemented with participant observation in two large-scale organisations in the UK. The findings highlight the challenging nature of the employer-led interventions and the importance of multi-level approaches when supporting mental health and well-being in the workplace. The study suggests how to improve mental health support at work and outlines key issues for organisations to consider when referring employees to well-being interventions.

A systematic approach to tailor an integrated workplace health promotion program based on a European good practice

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Introduction: Integrated workplace health promotion programs (WHPPs) target multiple lifestyle factors at different levels (individual and organisational) and are therefore potentially more effective than a single component WHPP in improving lifestyle behaviours. The Lombardy WHP Network is a good practice example, with successful implementation and positive effects on lifestyle behaviours. Employers choose workplace health promotion (WHP) activities from a catalogue to implement, following an integrated approach. A similar integrated WHPP, based on the Lombardy WHP Network, has been implemented in Andalusia, Spain. Based on the experiences from Italy and Spain, the aim of our study was to tailor this program to the Dutch context.

Material and Methods: The Dutch WHPP consists of a catalogue with WHP activities and an implementation plan that will assist employers in successfully implementing these activities. The Map of Adaptation Process was used to tailor the Lombardy WHP Network following five steps: 1) Assessment of relevant health promotion topics, WHP activities, potential barriers and facilitators for implementation and participation, and formulation of criteria for an integrated WHPP, 2) Selection of the final content of the catalogue, 3) Preparing the catalogue for implementation, 4) Piloting the feasibility and comprehensiveness of the implementation plan, and 5) Implementation of the integrated WHPP. Data was collected from 62 interviews, 2 focus groups and 1 meeting (with employees, employers and an advisory board, respectively).

Results and Conclusions: With input from employees and employers, seven relevant health promotion topics were identified, i.e. physical activity, nutrition, mental balance, sleep, smoking and alcohol. For each topic, evidence- and practice-based WHP activities were included in the catalogue. The integrated WHP approach was reviewed by the advisory board. Identified barriers and facilitators for the implementation of WHPPs, from the perspective of employers and workers, were used to create a tailored implementation plan. Effectiveness of the integrated and tailored Dutch WHPP on lifestyle behaviours of employees will be evaluated in a cluster randomised controlled trial. Further, a process evaluation will be conducted.

Barriers and Facilitators for the Implementation of Workplace Health Promotion Programs – an employers' perspective

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Introduction: Workplace health promotion programs (WHPPs) have shown to benefit lifestyle and health of employees. However, despite proven favourable effects for employees, many WHPPs have not been successful in practice. One of the causes might be a lack of proper implementation. This current study was conducted in preparation for the development, implementation and evaluation of an integrated WHPP. Integrated WHPPs target multiple lifestyle factors at different levels (individual and organisational) and are therefore potentially more effective than a single component WHPP in improving lifestyle behaviours. The aim of this study was to identify the barriers and facilitators for the implementation of an integrated WHPP from an employers' perspective.

Material and Methods: Data was collected by means of two online focus groups among 18 representatives of eight different Dutch organisations. Focus groups were transcribed verbatim and analysed using thematic content analysis. Data was coded both deductively, using the Consolidated Framework for Implementation Research (CFIR) consisting of five domains: 1) Intervention Characteristics, 2) Outer Setting, 3) Inner Setting, 4) Characteristics of Individuals, and 5) Process, and inductively. Subsequently, the constructs were rated to indicate whether they positively or negatively affected the implementation of the integrated WHPP.

Results and Conclusions: Costs and complexity of the implementation were identified as barriers. Facilitators identified were 1) a WHPP that is tailored to and created with employees, and 2) continuity of communication during implementation. Leadership involvement was identified as a facilitator as well, although this could also be perceived as interfering with the private lives of employees. Moreover, engaging key stakeholders and ambassadors within the organisation for the implementation was identified as a facilitator. Various barriers and facilitators within different domains play a role in the implementation of integrated WHPPs in the Dutch context according to employers. Strategies that tackle the identified barriers should be put into practice for more successful implementation of integrated WHPPs. For instance, it is key that there is one clear approach within the organisation regarding WHP instead of multiple different approaches. Additionally, employers should be aware of the importance of the identified facilitators, as these may also contribute to overcome barriers for implementation.

A Workplace Program to Promote Healthy Lifestyles in Microenterprises: Challenges and Results

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At work, and in particular in small and microenterprises, the level of risk is still high even if Workplace health promotion (WHP) programs are now very well-known and present in general. The quality of these in small and microenterprises is below standard. In the Bergamo province, a WHP has been running since 2010. It is very popular and brings good results, but no microenterprises participate in it. It was necessary to study a new program specific for this target group and in some way more person-centred. Here we will present the program and the results of the first year of its implementation. The program involved the participation of all local stakeholders with the coordination of the Local Health Agency (ATS) of Bergamo. A task force for this program and operating manual was trained in the ATS. The program and materials produced were presented to the associations of workers and employers for discussion and integrations. In addition to lifestyles, also safety was an objective of the program. The program was based on two pillars: individual interviews and the adoption by the microenterprise of at least two good practices of collective prevention initiatives each year, chosen from a specific list described in the operating manual. Eight microenterprises, with a total of 95 workers, were recruited for the sustainability test. All workers were assessed, in collaboration with an occupational doctor, with validated questionnaires on different aspects: smoking, diet, physical activity, alcohol, gambling, sleep and safe behaviour at work. 73.7% of the workers completed an individual interview. The most frequently discussed topic was nutrition (47.1%), followed by physical activity (35.7%), smoking (10%) and sleep problems (7.1%). As far as the perception of safety in the workplace is concerned, 45% believe that compliance with safety standards can be time-consuming and 10% believe that PPE is an obstacle, about 7% believe that sometimes safety standards should be neglected in order to increase productivity and 8% believe that accidents depend on bad luck. This small program, seems to confirm that the effectiveness of WHP programs using environmental and policy changes in combination with individually focused health behaviour change strategies is effective and sustainable.

"I got back on the bike and lost 3 kilos!" - Gains from participation in the corporate challenges using health&fitness app

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Gamification mechanism with fitness tracking functionalities proved to be effective in creating engagement around physical wellbeing of users (Hsu, Chang, and Lee 2013). The key success factor of mHealth apps has the potential to establish behavioural triggers that boost the motivation to foster a healthy lifestyle.

The authors used typology of triggers in serious games conceptualised by Lister et al. (2014) to explore and categorise thematically the sources of motivational gains spontaneously mentioned by the users who completed the company's fitness challenge on Activy platform – mHealth app founded in Poland.

This research presents findings from thematic analysis of 1059 responses gathered through fitness challenges for diverse companies in Poland between July 2020 and December 2021.

The objective was to identify the motivational triggers of the app users. The open question: "What are your gains from participation in those fitness challenges?" was optional to be answered in the Customer Satisfaction Survey after completion of the fitness challenge. All the responses were categorised thematically in line with Saldana's coding scheme.

The perceived benefits from taking part in the gamified challenges according to the level of saturations were as follows:
1. Eliciting satisfaction thanks to a) fun and joy b) stress relief, and c) bonding with their families as they were also involved in the fitness routines. This category received 435 mentions.
2. Building a habit of a healthy lifestyle through a) higher than usual frequency of training, regularity of physical activities b) 'exercising more' as a habit, and c) building awareness of self-care and improving the healthy lifestyle (298 mentions).
3. Experiencing frequent motivational boosts and mobilisation thanks to self-awareness about the performance, self-esteem and self-discoveries around the physical achievements, and combining the company's challenge with the personal goals (226 mentions).

The participants also mentioned: the ability to track the activities and measure performance and individual or collective achievements depending on the gamification mechanism. Each participant received a certain amount of points for being active and depending on the decision of the company, the challenge was focused either on collecting points for a charity or competing with other employees and receiving material prizes for individual or team results.

Finally, a better physical condition through losing weight and improving their training routine was mentioned as one of the key benefits from participation in the challenge.

The findings from qualitative data analysis (open question, self-reported data) have been matched with the app's Customer Satisfaction Survey question that used the five-point Likert scale. This confirmed the direction of findings from the descriptive data analysis as 76% of respondents (N=1550) expressed 'greater motivation to perform physical activities as the main gain from participation in the company's fitness challenges'.

Musculoskeletal disease prevention: physical exercise programs at the workplace

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Background: Workplace physical exercise programs are strategic interventions that can contribute to avoid and prevent musculoskeletal diseases and their impact both on the health and performance of workers and on the reduction of their impact on absenteeism and presenteeism.

Objective: In 2021 INSST undertook this project with the purpose of developing a proposal for physical exercise considering the main tasks of hotel maids as a base for establishing an occupational exercise program as complementary to ergonomic measures for musculoskeletal diseases prevention. A secondary aim was to define a guide for designing and implementing programmes of physical exercise at work.

Methods: Mechanic and functional task analysis of a sample of hotel maids using quantitative and qualitative methods and design of a corrective and optimizer exercise programme. Exercise routines have been designed in two formats: exercise cards and videos depending on the type of task and movement patterns.

Results: Development of three different routines for three tasks that were selected based on the probability of musculoskeletal harm and elaboration of a general guide with recommendations for implementation of exercise programmes at work for preventing musculoskeletal diseases.

Conclusion: Ad hoc exercise programs at work are valuable tools for preventing musculoskeletal diseases and a good complement to ergonomic measures. These resources (that will be made available online by INSST) can help and support companies to design and implement these programs.

Parallel session: BURNOUT

Abstract WAW190 - Young Researcher Award nominee

Does Effort-Reward Imbalance predict occupational burnout? Findings from the prospective COLAUS¦PSYCOLAUS cohort (2004-2020)

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Objectives: CoLaus¦PsyCoLaus prospective cohort permits testing the Effort-Reward Imbalance (ERI) work stress model in the general population of Lausanne (Switzerland). The population was recruited in 2004, while exposure and health status were updated three times: follow-up I (between 2009 and 2012), follow-up II (between 2014 and 2017), and follow-up III (from 2018 to 2020). In this study, we examined whether ERI predicts occupational burnout.

Methods: ERI and burnout were only measured at the second and third follow-ups, therefore participants were included in the analysis if they replied to the questionnaires at these follow-ups. An elicitation of psychiatric symptoms was performed using the semi-structured Diagnostic Instrument for Genetic Studies (DIGS) and the assignment of diagnoses was done following the DSM-IV. Maslach Burnout Inventory-General Survey (MBI-GS), Siegrist's Job Stress Questionnaire, Multidimensional Scale of Perceived Social Support, Eysenck Personality Questionnaire were used to measure burnout, ERI, social support, and personality traits, respectively. We performed linear regression analyses for two types of outcomes. First, we used the continuous scores of each MBI-GS dimension (i.e., exhaustion, cynicism, and professional efficacy) separately. Then we used the changes in scores between the two follow-ups for each MBI-GS dimension. Besides, we performed logistic regression analysis for the dichotomised outcome of burnout using clinical cut-offs established in Switzerland (von Kanel et al., 2016). These cut-offs categorise participants into three groups: no burnout, mild to moderate burnout, and severe burnout. We considered the dichotomised outcome of burnout with yes for "severe burnout" and no for "no burnout" and "mild to moderate burnout". The independent variable was either the ERI ratio or the five ERI dimensions (i.e., effort, esteem, promotion, security, and over-commitment). The ERI ratio was used as a categorical variable based on the quartiles of the distribution. Models were controlled for potential confounding: age, gender, physical activity, smoking status, psychiatric disorders, personality traits, social support, and the outcome at the second follow-up. We included 575 participants (mean age: 54.72 years; 50% men) in the linear regression and 500 participants free from severe burnout at the second follow-up in the logistic regression (mean age: 54.80 years; 51% men).

Results: The second and third quartiles of the ERI ratio were associated with professional efficacy ($ß$=0.12, 0.13, p-value=0.02, 0.01 respectively). Regarding the changes in scores, the effort dimension had a negative effect on the changes in exhaustion ($ß$=-0.12, p-value=0.03). The esteem dimension increased the changes in cynicism ($ß$=0.11, p-value=0.02). The result of logistic regression shows that the third quartile of the ERI ratio increased the risk of burnout (OR=2.87, p-value=0.04). However, each dimension of ERI separately was not associated with the risk of burnout.

Conclusions: The results suggest that higher effort causes less change in the exhaustion status of workers whereas higher self-esteem protects from changes in cynicism. Preventive interventions to reduce burnout may benefit from decreasing effort and promoting self-esteem among workers. Providing an equilibrium between effort and reward at work may also help in protecting workers from developing burnout.

Three-Wave Cross-Lagged Study on the Health Impairment Process among Polish Human Service Workers

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The study was aimed to test the health impairment process, postulated by the job demand-resources model (JD-R). The JD-R model explains the mechanism of depression development as a result of the long-term effects of excessive job demands and prolonged job burnout. According to this process, prolonged job demands contribute to the development of job burnout, which in the long run results in depression. The health impairment process was verified in the cross-lagged study, with three measurements (with an eight-month interval between measurements), conducted during the COVID-19 pandemic. The study included social service workers (N = 750). Two types of emotional demands, typical for this professional sector (related to caring and related to hiding emotions), two components of burnout (exhaustion and disengagement from work) and depressiveness were taken into account. With the use of structural equation modelling, the direct and indirect (with the participation of occupational burnout) effect of emotional demands on depression were tested. It was examined whether the two types of emotional demands (measured in measurement 1) are a predictor of exhaustion and disengagement from work (measured in measurement 2), and these in turn lead to depression (measured in measurement 3). The results confirmed partly the health impairment process. Demand for hiding emotions (but not demand related to caring) was predictor for high exhaustion and high depression. Exhaustion (but not disengagement from work) mediated this relation.

What factors influence worker's exhaustion?
A meta-analysis of longitudinal studies

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Objectives: The aetiology of burnout and the time needed to develop the syndrome remain unclear. A large body of research focuses on risk and protective factors linked to burnout, with longitudinal studies conducted using different follow-up durations. Exhaustion is the core and best-measured dimension of burnout. The aim of this meta-analytic study was to identify risk and protective factors for exhaustion. We focused on longitudinal studies and considered the effect of follow-up duration.

Methods: The literature search was conducted in three databases, MEDLINE, PsycINFO, and Embase, from January 1990 to November 2020. We searched for studies that examined exhaustion as a separate outcome. We grouped the factors of interest into four families (Situational and work-related factors, Individual factors, Work-Individual interface, and Perceived intermediate work consequences) and nine subfamilies (Job demands, Job control, Job resources, Interactions at work, Communication and leadership, Personality characteristics & self-reported health status, Job attitudes, Work-family interface, and Perceived intermediate work consequences). The meta-analysis focused on the correlation (rho) between the factor at the first measurement point and exhaustion at the second measurement point. The meta-analysis was conducted using z-transformed correlation coefficients as effect sizes, using restricted maximisation likelihood modelling and, in case of high heterogeneity, subgroup analysis, and sensitivity analysis. We further assessed the risk of bias using the Methodological Evaluation of Observational Research Checklist (MEVORECH) and the overall quality of evidence using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach.

Results: We examined 256 factors from 66 eligible studies that used different follow-up durations (from two months to 10 years). All summary estimates showed high heterogeneity (no I^2 < 60% was found), for all nine subfamilies. We, therefore, conducted a further analysis of 52 subgroups of factors. Following the subgroup and sensitivity analyses, the heterogeneity was reduced but the associations were generally weak (*rho* < 0.35). Only a few associations were moderate in size. For three subfamilies (Job demands, Personality characteristics & self-reported health status, and Perceived intermediate work consequences), we did not observe a change in the average association between the subfamily of factors and exhaustion. However, when the follow-up duration increased, there was a decline in the average association for six subfamilies of factors (Job control, Job resources, Interactions at work, Communication and leadership, Job attitudes, and Work-family interface).

Conclusions: The overall quality of the included studies and the small number of studies included in each subgroup precluded clear conclusions regarding risk and protective factors for exhaustion. In addition, higher-quality prospective cohort studies may help to comprehend the course of burnout.

Burnout in Polish lawyers - latent profile analysis

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The phenomenon of burnout has recently aroused great interest among employees, not only due to the appearance of such a category in the ICD-11 classification, but also because more and more people are experiencing burnout symptoms. This paper presents the results of the study of burnout in legal professionals in Poland (N = 1745). This is not a typical professional group affected by such analyses, but Polish lawyers (and especially judges) have been struggling in recent years with an additional burden, such as the threat of the separation of powers, which may lead to stress, loss of meaning of work and burnout. The article presents the results of the analysis of latent profiles for three professional groups: judges, legal advisers and advocates.

Well-being of workers at construction sites in Japan – A preliminary survey for evaluating validity of well-being scales

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According to Diener (1984) and Ryff (1989), it is assumed that there are two types of well-being. One is the „subjective well-being", which is the happiness by the achievement of hedonic pleasure indicated by the correlation of concentration and frequency of emotions. Another one is the so-called „psychological well -being" that aims to achieve individual goals by maximising one's own abilities. Interpreting this as a field of occupational safety, in addition to attempts to reduce the risk of occupational accidents (defined as a function of „harm severity and frequency"), workers should be more comfortable and happier while working. From now on, it will be the responsibility of the corporate management to establish a work environment where worker can feel well-being and to take measures to enhance these two well-beings. In addition, some procedure is needed to evaluate the reliability and the validation of the measures.

Therefore, in this project, we aim to establish a well-being scale specific to workers during working based on the scales of subjective well-being and psychological well-being established by Diener and Ryff, respectively. Both indicators were created for general public asking about the well-being of life over a relatively long period of time. So far, well-being changed by short-term such as working time has never investigated relatively short -term. However, if there are items that change even in a short time, it may be possible to search for a more comfortable and rewarding work environment, starting from a healthy worker. Especially, it is possible that well-being of worker would be changed if the working style is changed by ICT or AI introduction to work area. We examined effects of a relatively short-term intervention and changes in well-being in the short term using two scales as a preliminary study. Workers working at construction sites (N=100) such as working at tunnels and highways took part in this experiment. They talked about their well-being before and after watching one of the short time videos. We examined whether the above-mentioned two well-being scales changed before and after that. By selecting one of the videos that they wanted to watch, the type of well-being that the worker was interested in was also investigated at the same time.

As shown in the present study, 35% of the workers at the construction site chose videos about „autonomy" and 26% chose „positive relationships with others". In addition, it was clarified that the six subscales of the psychological well-being changed before and after watching the 2-3 minute videos, and that the well-being changed even in a short period of time. In the future, we plan to build a more sensitive scale taking into consideration work styles and backgrounds of workers, and conduct similar verifications for other occupations to see if there are any differences depending on the occupation. From the area of occupational safety, we believe that it is necessary to establish measures not only to reduce negative risks such as occupational accidents, but also to aim for a work site that is happier or self-fulfilling.

NIOSH Worker Well-Being Questionnaire (WellBQ)

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While there is much interest in worker well-being, there has been no consistent definition of the concept of worker well-being nor a comprehensive measurement tool to assess it. To address this gap, the United States (U.S.) National Institute for Occupational Safety and Health (NIOSH) and the RAND Corporation conducted research to develop a conceptual framework and operationalize indicators for worker well-being. This work produced the NIOSH Worker Well-being Questionnaire (WellBQ), a new tool designed to assess worker well-being.

The research team conducted a multidisciplinary literature review to inform the framework development. Using the key conceptual issues found, a worker well-being framework was developed, consisting of five domains: (1) Workplace physical environment and safety climate; (2) Workplace policies and culture; (3) Work evaluation and experience; (4) Health status; (5) Home, community, and society.

Next, the team reviewed existing relevant instruments to extract items for a draft instrument based on the framework. An expert panel contributed to the prioritization and selection of items, and a draft instrument was created. It was field tested in a sample of 975 working adults. The testing was conducted by the GfK using its KnowledgePanel, a probability-based, online panel to be representative of the civilian, noninstitutionalized U.S. population.

The responses were analyzed through psychometric testing which found meaningful correlations that point to criterion, convergent, and discriminant validity of questionnaire measures. Using the analysis, multi-question scales were created, less-informative items were eliminated, and minor edits were made to improve clarity. Based on the pilot test and the number of items which were eliminated, it is estimated that the NIOSH WellBQ can be completed in about 15 minutes. The final instrument is divided among 24 subdomains and 52 subdomain constructs.

The NIOSH WellBQ is designed to capture multiple facets of well-being to both broadly characterize the well-being of workers and inspect specific aspects of worker well-being. It can be used across the workforce as a whole or within various worker subpopulations. As data are accumulated through widespread use of the NIOSH WellBQ in a diversity of settings, we anticipate that researchers, practitioners, and policymakers will be able to establish benchmarks or for worker well-being across different working populations. The NIOSH WellBQ can be used to identify changes in worker well-being due to changes in public or organizational policies and investigate effects of deliberate interventions to influence worker well-being and associated outcomes. The NIOSH WellBQ is a reliable and valid instrument that comprehensively measures worker well-being.

Thriving from Work: the development of a novel measure of work-related well-being

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"Thriving from work" is the state of positive mental, physical, and social functioning in which workers' experiences of their work and working conditions enable them to thrive in their overall lives, contributing to their ability to achieve their full potential in their work, home, and community.[1] Thriving from Work consists of six domains: experience of work, work-life, basic needs, psychological/emotional, social, and health-related well-being. The Thriving from Work Questionnaire was developed using a phased iterative approach, including a systematic scoping review, external review with 17 multidisciplinary experts, and 4 rounds of cognitive testing across a diverse sample of workers.[1] It has been designed to have broad applications across research, policy, and practice as (a) a positive outcome measure of workers' thriving for research purposes; (b) a one-time survey instrument for use across a working population or for periodic surveillance (repeated surveys) across a diversely employed worker population or within a single employing organization; and (c) an organizational diagnostic tool to identify priority areas for interventions to improve worker well-being and to monitor their effectiveness across different dimensions of workers' thriving.

Three waves of U.S. workers were surveyed in a national online panel (n=1,550; n=500; n=100) to conduct item reduction and evaluate the psychometric properties of the instrument. Using a clinometric approach to ensure content validity, we first fit a bifactor confirmatory factor analysis model to (a) identify a final set of 30 items (from an original set of 87 candidate items) that measures specific factors for each of our domains as well as thriving overall, and (b) derive an 8-item short-form. The final 30-item set had good model fit and excellent reliability for the general "thriving" factor. The short-form included at least one item from each specific factor, captured 94% of the variance of general thriving from the long form, and had a similarly good model fit. This factor structure was confirmed through our second sample. We assessed validity using a variety of measures including criterion validity through general thriving's association with Cantril's Ladder for a person's perception of their overall well-being – a 1 SD increase in long- and short-form scores was associated with a 0.6 and 0.57 point increase in Cantril scores (p< 0.0001). Thriving from Work Questionnaire appears to be a robust measure of work-related well-being. A Spanish language version was also validated in a finance company (n=8796).

The Thriving from Work Questionnaire has been found to be robust and valid novel measure of work-related well-being that focuses on the positive contributions that work can have on one's overall well-being.

An innovative application in the method of System Dynamics that captures relative changes in determinants of workplace wellbeing to develop more personalised interventions

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Introduction: Individual workplace wellbeing can be conceptualised as a complex phenomenon with a high number of interacting factors. Recently, our research group captured individual workplace wellbeing into a Causal Loop Diagram (CLD). This CLD provides a comprehensive overview of multiple, measurable key factors relating to individual workplace wellbeing, and of the way these factors may interact over time, either improving or deteriorating workplace wellbeing. The aim of this approach is to provide new insights for subgroups that can be used to design effective and more personalised workplace wellbeing interventions. However, we still do not know the strength or speed of the interactions between the factors in the CLD over time. Therefore, we aimed at quantifying the CLD.

Method: In essence, we tested the hypothesised relations between the factors in the CLD and their expected strength and speed based upon literature and expert experience against real-world longitudinal data. Survey data were collected every 4 weeks over a period of three months from 120 employees working at three different institutes in the Netherlands.

Results: Based on this data, we were able to accurately quantify the model predicting the direction of the relative change of an individual over the observed period for most of the model variables by approximately 80%. The final model was used to build a prototype wellbeing dashboard with multiple purposes, such as standardised data collection of employee and employer, multilevel feedback based upon the model, and behavioural change support. By collecting more data, the dashboard is able to provide scenario simulations that ex-ante will simulate the possible effects of interventions for specific subgroups in different sectors.

Discussion: In upcoming research, the wellbeing dashboard will be used to collect more longitudinal data, enabling pattern analyses which will reduce the uncertainty of the possible outcome further. It provides a potential learning tool to simulate the possible effects of wellbeing promotion interventions for certain archetypes. This can provide insight into what type of wellbeing intervention could work for whom.

Work ability and sick leave among teachers with hearing loss

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Background: In the most recent annual Global Burden of Disease study, hearing loss (HL) was announced to be the third largest cause of global years lived with disability. The prevalence of HL ≥20 dB is estimated to be 14.3% in Europe. The prevalence of HL increases with age, particularly above 50-55 years. HL is associated with burnout, depression, sick leave and disability. New retirement policies in the Netherlands encourage people to work longer. Consequently, age-related HL will be an increasing occupational health problem, especially in communicative work such as teaching. Teachers need to hear well. HL hinders their daily work. Recently, we have shown that HL is negatively associated with sustainable employability among teachers. The aim of the present study was to examine the association of HL with work ability and sick leave among teachers.

Methods: We invited teachers to participate in an internet survey. Work ability was measured with the single-item Work Ability Score. Scores were dichotomised into poor-moderate (score 0-7) and good-excellent (score 8-10) work ability. Sick leave was measured by asking how many sick leave days teachers had in the past 3 months. To determine HL among teachers, we used a validated online speech-in-noise screening test, providing results in terms of "good", "insufficient" or "poor". HL was defined as an "insufficient" and "poor" test result. To examine the cross-sectional associations of HL with work ability and sick leave, we used logistic regression analyses, adjusted for age, sex, level of education, type of task, current work hours, and working as a physical education teacher. Odds ratios (ORs) and 95% confidence intervals (CI) were estimated.

Results: Of the participating N=737 teachers, N=505 (68.5%) had good, N=146 (19.8%) insufficient, and N=86 (11.7%) poor hearing. Among teachers with poor hearing, 32 teachers (27.7%) had good-excellent work ability, versus 69 teachers (47.3%) of those with insufficient and 325 teachers (64.4%) of those with good hearing (Chi-square p=0.000). Teachers with poor and insufficient hearing had lower odds (OR 0.35, CI 0.21 – 0.58, and OR 0.53, CI 0.36 – 0.78, respectively) of good-excellent work ability as compared with teachers with good hearing. Teachers with poor hearing reported on average 5.6 (standard deviation [SD] 14.2) sick leave days in the past 3 months as compared to 3.2 (SD 9.8) days among teachers with insufficient hearing and 2.1 (SD 7.2) days in teachers with good hearing. Teachers with poor (OR 2.16, CI 1.32 – 3.55), but not insufficient (OR 1.14, CI 0.76 – 1.71) hearing had higher odds of sick leave than teachers with good hearing.

Conclusions: Hearing loss among teachers was associated with lower work ability and more sick leave days. This underlines the importance of assessing the hearing status of teachers, because of age-related HL especially in those aged 50+. To screen for HL, a validated online speech-in-noise screening test could be added to periodical health surveys. Teachers with HL should be counselled on possible interventions to support them in their work, e.g. hearing aids, improved acoustics in the workplace and tasks with less oral communication.

Job demands, resources, coping strategies and impression management for workers on the autistic spectrum: A qualitative study

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Little is known about autistic people at work, their wellbeing, or how to maximise it, as little has been studied about how autistic needs and behaviour play out in the workplace. With the shift towards remote working since the pandemic, workplace accessibility has generally increased, so getting more autistic adults (who tend to prefer remote work) into sustainable employment represents a social issue and an economic opportunity.

The current study was conducted qualitatively, by an autistic researcher, to explore autistic workers' support needs, desired and (in-/)effective reasonable adjustments, coping and masking behaviour, and experiences of burnout. 20 semi-structured interviews, averaging 2.5 hours long, explored the experiences and narratives of currently or recently (2-3 years due to the pandemic) employed autistic adults with experiences of burnout that affected their employment.

Contrary to popular belief, the current study has found strong evidence that, in autistic workers, occupational burnout and the under-researched concept of autistic burnout may be the same underlying construct. While occupational burnout appears to be experienced and expressed differently in autistic workers versus non-autistic workers, it has notable similarities across both communities, which are consistent with the Job Demands-Resources Model of Burnout (Demerouti, Bakker, Nachreiner and Schaufeli, 2001). The way in which burnout presents and is caused bears the hallmarks of occupational burnout, with a number of autism-specific additions. Additional demands exist, related to sensory and support needs, likewise there are additional resources related to coping strategies and reasonable adjustments to consider.

The current study is the first to explore in-depth the nature of burnout, both occupational and autistic, using exclusively primary data. It is also the first to explore coping strategy use, sensory processing and masking behaviour in connection with burnout, in this population. Novel findings around sensory experiences have been uncovered - namely that management of sensory needs constitute both a job demand and a resource. Surprisingly, sensory experiences may also be used as a coping strategy, and overcompensating in meeting sensory needs appears to fortify against job stressors.

Similarly novel findings have been made regarding masking. The data supports, clarifies and greatly extends extant, (though disparate and disjointed), definitions of masking as a false, hypervigilant performance of the absence of autism and social impairment, in response to social isolation or rejection (Mitchell, Sheppard and Cassidy, 2021), and has revealed overlaps with Impression Management (Goffman, 1949), human resources management and psychological stress literature. Analysis has suggested that masking is connected to identity, acceptance/rejection, self-esteem, self-efficacy, self-protection and voice. It is reportedly experienced as a demand, a resource, or both: an intense, front-loaded cost leading to social inclusion as a longer term resource.

This paper presents key initial findings using the JDR as a framework to suggest practical solutions and strategies, and implications for theory around burnout, reasonable adjustments, masking and coping behaviour. It is hoped that this study gives insight into more effective and supportive management of autistic workers which maximises their performance and wellbeing.

The influence of the onset of a disease on exit from paid employment among workers in The Netherlands: A longitudinal register -based study with 9 years follow-up

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Objectives: This study investigates the influence of the onset of a disease on exit from paid employment, and whether this differs between demographic groups.

Methods: Register data from Statistics Netherlands on medication prescription was linked with information on employment status and demographics. Persons who were employed in 2009 and 2010, and who did not use medication for the selected disease in 2009 (*n*=5,889,036) were followed up for 9 years. Six disease categories were selected based on medication prescription: cardiovascular diseases, diabetes mellitus, respiratory illnesses, psychological disorders, inflammatory disorders and psychotic disorders. Based on tax information, four pathways out of paid employment were defined: disability benefits, unemployment, no income, and early retirement. Cox Proportional Hazards regression analyses with competing risks were performed, with interaction terms for age groups, sex and migration background.

Results: The onset of any of the selected diseases increased the likelihood to exit paid employment, with the strongest associations for psychotic disorders (HR 3.40, 95% CI 3.28-3.53) and psychological disorders (HR 2.10, 95%CI 2.07-2.13). The onset of a disease was most strongly related to disability benefits, followed by unemployment. The analysis with interaction terms for age showed for psychological and psychotic disorders an increasing HR until around middle age, after which it decreased. For these diseases, HRs for exit from paid employment were also higher for persons with a non-Dutch background.

Conclusion: The onset of disorders, especially mental health disorders, is a risk for early exit from paid employment. Interventions are needed to enhance an inclusive workforce and prevent involuntary loss of paid employment.

Does a multidisciplinary intervention, with or without workplace intervention, have an impact on pain, functional status and return to work in employees suffering from (sub)acute low back pain? A systematic review

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Background: Low back pain (LBP) is highlighted globally as the leading cause of disability and is characterised by enormous costs for society originating from e.g. healthcare use and work absenteeism. Early interventions with a multidisciplinary approach are recommended in the (sub)acute stage and integrating health and workplace management seems essential in reducing sick leave. Nevertheless, there are some uncertainties regarding recommendations for (sub)acute LBP and this may be due to the absence of multiple direct comparisons of the available multidisciplinary interventions.

Purpose: The objective was to examine the effectiveness of a multidisciplinary intervention, with or without additional workplace intervention (WPI), for (sub)acute LBP among adults, with a focus on pain, functional status, return to work (RTW), or sick leave.

Study design: Systematic Review.

Methods: A comprehensive search in six electronic databases was completed (last search in June 2021). The methodological quality was assessed by using the RoB 2-tool for RCT studies and the ROBIS-tool for a systematic review. Relevant information was extracted from each included article and presented in an evidence table and a narrative synthesis of results was conducted.

Results: A total of 12 studies were included of which 11 RCT studies and one systematic review. A multidisciplinary intervention has beneficial effects with regard to pain scores and functional status when compared to usual care. When compared with another intervention or an additional work intervention, the results were contradictory. Conflicting results were found with respect to work-related outcomes when compared to usual care. When compared with another intervention, the results do not appear to be more favourable but when an additional work intervention is considered, it might result in earlier work resumption compared to usual care. Lastly, subdividing patients at baseline is beneficial to assign them to the most effective therapy in order to favour early RTW.

Discussion: Most important limitations of this study include: 3 articles with coherent samples, the lack of articles containing an additional WPI upon a multidisciplinary intervention and the difficulty to compare results due to high clinical heterogeneity in population and/or intervention.

Conclusions: A multidisciplinary intervention has favourable effects compared with usual care regarding pain scores and functional status. Furthermore, adding a WPI to usual care as well as subdividing patients based on work-related characteristics might be beneficial for RTW. The evidential value of the conclusions is often not strong enough due to low evidence or too few studies. Future studies should focus more on investigating the effects of a multidisciplinary intervention in patients with (sub)acute LBP in combination with interventions at work.

Important Organizational Features for Health, Well-Being and Productivity

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The purpose of this study was to assess characteristics of an organization's workplace that possessed qualities known to promote employee health and well-being, and based on assessments of workplaces to explore country profiles of what characterize a healthy workplace. The Healthy Workplace Index was developed to measure the degree to which an organization's workplace possessed health- and well-being-promoting qualities. The Index was developed from existing validated items and new survey items consistent with Need Theory and the Job Demand-Resource Model. Data were collected in the US and Norway across similar occupations to compare country profiles.

First, a 220-item questionnaire was pilot tested among employees in Norway using a convenience sample (N=300) and in US using Mechanical Turk, (N=380). Analyses were conducted on the two datasets using multivariate methods marker object projection (MOP), marker variable projection (PVP), and partial least squares projections to latent structures (PLS) using the statistical program Sirius version 10.0 (Pattern Recognition Systems, AS, info@prs.no). These analyses were able to identify the most differentiating items in the positive and in the negative direction for predicting health and well-being (absence of health and well-being). This process reduced the number of items in the Pilot from 220 to the most differentiating 40 positive and 40 negative items within the pilot questionnaires in Norway and US.

These items were then distributed to a final sample of 1056 participants, with 856 from Norway and 200 from the US. The Norwegian sample encompassed five different professions: High school teachers (N=266); Real estate professionals (N=70); Insurance agents (N=516); Patent professionals (N=26); and Real estate professionals (N=70). The US sample represented High School teachers (N=121), Academic personnel (N=118), Nurses (N=32), and Real estate professionals (N=7). Country profiles of scores across the HWA items were created by partial least squares projections to latent structures (PLS) using the HWI as the dependent variable. The analysis created three components (linear lines), the first component is the strongest one (explains the most). Each component has two "ends." The "high ends" are the profile of the people reporting to have a healthy workplace and creates a description of what characterizes these people. At the "low ends" are the people who do not have a healthy workplace. The analysis generated four different profile of workers (2 "healthy" and 2 "unhealthy") for each country.

Based on our preliminary results, there appear to be both universal aspects of the workplace that support a healthy environment and some different emphases in each country. In general, those who report having a healthy workplace in Norway also report having competence and empowering leadership. Those who report having a healthy workplace in US feel recognized, experience psychological safety, fairness, and belongingness. These profiles suggest that the Norwegian sample is more concerned with personal growth and development, while the US sample is more concerned with psychological safety. Nonetheless, both countries tend to differentiate healthy and unhealthy workplaces similarly.

Using PLS and creating profiles is a novel way to describe the current state of the work environment for companies. Feedback from the participating companies in the Norwegian sample who received customized profiles for their company indicated that the profiles are not only easy to understand but they also "diagnose" their work environment in a helpful way. Nevertheless, these differences might be due to the unique views of the specific occupational groups who participated in each country's sample.

The Physical Environment Role in Healthy Workplaces

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Workplace design trends in place long before the COVID-19 pandemic began, such as interdependent campaigns for mentally and physically healthy work environments, for increased working from home, and for onsite focus on collaborative activities, continue to power workplace design efforts. These attempts to elevate user wellbeing and to optimize alignment between the physical forms of work environments and the tasks to be performed in them can result in increased physical and mental health for employees, as well as augmented professional performance.

Physical work environment can boost both (mental and physical) health and cognitive performance simultaneously by, for example:

- Keeping stress levels in check. When humans work in a space that does not align with the activities they are pursuing, they experience stress, which degrades their performance as well as their physical health (for instance, Lamb and Kwok, 2016; Seddigh, Berntson, Jonsson, Bodin Danielson, and Westerlund, 2015; Segerstron and Sephton, 2010; Vischer, 2012). Supervise the planning, implementation, timely delivery and quality output of the entity in accordance with the programme of work; Manage the human and financial resources as allocated; Contribute to strategic and programming documents as well as internal policies, guidelines and best practices for the continuous improvement of performance; Within the competence of the entity, manage relationships with other Frontex entities and external stakeholders; Implement the budget as allocated according to sound financial principles and rules; Collaborate with other internal and external stakeholders according to the established business workflows and in line with management guidelines; Develop and maintain business workflows within their area of responsibility; Actively contributing to change management and the embodiment of Frontex identity through its corporate values; Contribute to the implementation of recommendations stemming from the internal or external audit reports and evaluations in their area of responsibility; Contribute to the implementation of the corporate risk management within their area of responsibility; Actively promote the Frontex corporate values and code of conduct, and contribute to the implementation of the Agency's anti-fraud strategy; Where so designated, act as designated controllers. These task-based stressors can take a variety of forms, such as seeing surface colors that degrade their analytical (Elliot and Aarts, 2011) or creative (Lichtenfeld, Elliot, Maier, and Pekrun, 2012) performance, for example, or working in artificial lighting inconsistent with professional objectives (for example, Wessolowski, Koenig, Schulte-Markwort, and Barkmann, 2014). Physical environments can also stress employees in purely physical ways, by being too hot or too cold. Additional situations that can also optimize wellbeing and performance by keeping stress levels low include those in which there is a comfortable amount of environmental control (for example, Knight and Haslam, 2010; Samani, Rasid, and Sofian, 2015; Vischer, 2007), support for privacy (Gifford, 2014), and recognition of national (Hofstede, Hofstede, and Minkov, 2010), and organizational (Cameron and Quinn, 2006) cultures, for instance. As Vischer (2007) notes, negative nonverbal messages sent by environments elevate stress levels. Providing employees with at-work opportunities to mentally refresh is crucial for keeping their stress levels in check and user mental health from being degraded (Gifford, 2014).
- Effectively ventilating. MacNaughton, Pegues, Satish, Santanam, Spengler, and Allen (2015) tie ventilation above minimum standards to enhanced professional performance. Al Horr, Arif, Kaushik, Mazroei, Katafygiotou, and Elsarrg, similarly, link good ventilation to wellbeing (2016).
- Providing opportunities for employees to be active at work. Walking is exercise and burns calories; research indicates that while walking and immediately afterwards, cognitive performance, and particularly creative performance, can be at a higher level (for example, Oppezzo and Schwartz, 2014). Although establishing

and quantifying sit-stand desks' contribution to physical health is difficult, standing while working does require employees to use leg muscles, which has positive health implications. Using a sit-stand desk has been tied, by some researchers, to some enhancement of cognitive performance (Chambers, Robertson, and Baker, 2019).

- Encouraging healthy eating. Via a number of factors, from surface color choices to light intensity (for example, Biswas, Szocs, Chacko, and Wansink, 2017), design can influence foods consumed, which has complex links to mental health and performance.

As Allen and Macomber (2020) and Colenberg, Jylha, and Arkesteijn (2021) report, research consistently links environmental design, wellbeing, professional performance, and health.

Antidotes to the Great Resignation

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One result of the pandemic is that many workers have had to change how and where they work. Over half of US workers have reported in recent surveys that they are looking to leave their employer, and evidence of this sentiment is already apparent in staff shortages in a wide range of occupations(beyond absenteeism due to COVID-19). The interest of workers to leave their employers has been labeled "The Great Resignation," a level of turnover that US employers have never seen" (Gallup, 2021). There are several reasons for this significant decrease in organizational commitment and increase in worker search for a "better" organization. Low wages have led some workers to seek higher paying jobs and better working conditions. White-collar workers have expressed their desire to work for a company that cares about their health and well-being, and that demonstrates that with expanded benefits, better work hours, remote work arrangements, greater consideration of personal and family needs, and more effective leadership and management (SHRM, 2021).

One way to examine the causes of the Great Resignation, in order to identify ways to strengthen organizational commitment and lower turnover, is to view the worker experience from the lens of a healthy workplace framework and specifically, basic need satisfaction. We argue that workers seek job environments with working conditions that can potentially satisfy important needs. If those needs can be identified, then their employer's workplace and working conditions can be assessed to determine whether the job environment has design qualities that can provide need satisfaction, or whether design qualities can be added to build greater satisfaction and thus greater commitment.

Design qualities that support need satisfaction can be translated into both physical and psychosocial factors. For example, in an assessment of home offices, we found that a typical home office could have four different design qualities that support need satisfaction: privacy, security, flexibility, and comfort. These four qualities can support four needs: autonomy, competence, safety, and positive emotions. In fact, all four design qualities support autonomy, the most reinforced need in that work environment. A somewhat different set of design qualities are present in a typical worksite: connection, equity, flexibility, and predictability. Flexibility is the only design quality that overlaps in these two work environments. With these four design qualities, several needs have the potential for satisfaction: belonging, meaning/purpose, fairness, competence, safety, and positive emotions. Noteworthy is that autonomy is not well-supported in the worksite, and belonging and meaning/purpose are not well-supported in the home office.

One implication of this assessment is that workers who prefer working at home but are forced to return to the office may not want to give up their autonomy. If the worksite environment does not give them other positives such as a sense of belonging and meaning/purpose, workers may seek other types of work arrangements that fit better with these needs. Alternatively, if the worksite provides more autonomy—something approximating what the worker desires—then the employer may be able to convince the worker to stay. However, if the employer does not provide sufficient opportunity for workers who return to the office to satisfy their needs for autonomy, belonging, desire to feel a part of something important and bigger than themselves, and fairness, then the employer will have a hard time convincing workers to stay.

The Burnout Challenge: Improving the Relationship Between Workers and the Workplace

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In 2019, after the last **Wellbeing at Work** conference in Paris, the World Health Organization (WHO) made an important announcement about job burnout, based on its review of several decades of burnout research:

> Burn-out is included in the 11th Revision of the International Classification of Diseases (ICD-11) as an occupational phenomenon. It is **not** classified as a medical condition.
>
> Burn-out is defined in ICD-11 as follows:
> "Burn-out is a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions:
>
> - feelings of energy depletion or exhaustion.
> - increased mental distance from one's job, or feelings of negativism or cynicism related to one's job.
> - reduced professional efficacy.

However, despite the WHO assessment that burnout is a response to job stressors, and not a medical condition, the "popular view" of burnout continues to assume that it is a medical or psychological illness. Thus, any worker who is "burned-out" can be diagnosed and treated for this individual problem. Once it is known **who** is experiencing burnout, then the solutions will involve fixing those people.

But what about posing a different question – **why** are workers experiencing burnout? This is the basis for the WHO assessment that chronic job stressors, which have not been successfully managed, are the source of the burnout problem. And it points to a different solution strategy, which is to fix the job conditions in the workplaces, and not simply fix the workers.

We want to go beyond this dichotomy of "is it the worker or is it the workplace?" and argue that it is both. Specifically, it is the relationship between the worker and the workplace that is critical, both for understanding the problem of burnout and for developing effective solutions for it. According to our research, many chronic (i.e., high frequency) job stressors involve a serious mismatch between the job and the person. These mismatches can occur within six areas of work life – workload, control, reward, community, fairness, and values. This means that there are six paths to improving the match between workers and their workplace, thus reducing the risk of experiencing job burnout, with all its negative consequences for both personal and organizational well-being.

Improving the relationship between workers and the workplace will need to focus on both prevention and coping. Although coping strategies can help someone respond more effectively to stressors, they rarely change the actual chronic conditions that are causing the stress in the first place. Prevention strategies are necessary to modify the job stressors, so that they are less frequent or have less negative impact or are even eliminated. This will require redesigning various aspects of the workplace, in many ways that will enhance worker satisfaction and performance. Rather than viewing burnout as a threat, we want to argue that burnout is a challenge – and that effective solutions can indeed be achieved by focusing on the relationship between people and their job environment.

Workplace innovation, smartization, and wellbeing: focused on industrial accidents in manufacturing industry

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Korea is a developed country and has recently been attention as one of the world's top 10 economic powerhouses. In contrast, the level of occupational safety remains at the level of underdeveloped countries. According to the theory of Maslow's hierarchy of needs, Safety needs are fundamental to well-being. In previous literatures, they believe that occupational safety could be solved with technology (Kim & Kim, 2020). However, today we believe that Social relations is the one of key for increasing occupational safety. Individual employees' participation or cooperative labor relations affect directly investment in a safe environment in the workplace and employee safety-related activities (Park & Na, 2010). In this study, we analyze the relationship among workplace innovation, smartization, and workplace safety based on the Workplace Panel Survey data published by Korea Labor Institute. WPS data had been collected 8 times biannually between 2006 and 2020, and it surveyed one year earlier information on enterprise or firm. We use data in 2019, and excluding observations with missing variables, finally we get a data set whose sample size is 2,644. We draw our regression models from the Cobb-Douglass production function. We estimate OLS models whose dependent variable is Industrial accident rates. The results of this study indicate that smartization of workplace does not affect negatively industrial accident rates. However, workplace innovation (ex, employment security, financial performance sharing, training, information sharing, indirect worker participation, employee involvement, and discretion of work groups) affects negatively industrial accident rates. In addition, moderating effects indicate that workplace innovation have statistically negative moderating effects on the industrial accident rate of smart technology.

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Augmented telework with avatar technology: Impact on workplace and required actions

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The COVID-19 pandemic has brought fundamental changes in workplaces. One of the changes is the global shift toward teleworking. Although teleworking was traditionally accepted in northern European countries and the U.S., the pandemic triggered a mass transition to telework in a variety of industries across the globe. However, the current practice of teleworking is still limited to office work and some technical work in which physical interactions are not indispensable. For the workplaces which require manual work, such as hospitality services, teleworking with existing ICT has not been largely applicable.

Against the backdrop, Watanabe et al. (2020) proposed a concept "augmented teleworking" aiming to make teleworking appliable to various industries by means of human augmentation technologies. Human augmentation technology, such as virtual reality, avatars and haptics realizes multimodal interactions with people and environments remotely. This could create new opportunities for teleworking in broader types of work and moreover contribute to employee wellbeing and work performance in the context of workplace innovation (Pot et al., 2017). Currently, both the research and business practice of augmented teleworking are still at a preliminary stage (Ho et al., 2022), and its impacts to workplaces are understudied.

This study specifically focuses on avatar technology. Avatar is an artificial double which a person can control for interacting with other people and environments. Recently, avatar technology is gradually being adopted in service workplaces for interactions among employees and customers. I introduce two avatar technology application cases by Japanese companies. Based on the semi-structured interview results, I discuss the impact of avatar technologies to workplaces, specifically focusing on workstyle, skill development and wellbeing in relation with workplace innovation.

The implication of this study is that avatar technologies could promote employee wellbeing and create new types of experiences both for employees and customers. Meanwhile, employees need to acquire new skill sets for remote work, which should be cocreated among them. I also make some recommendations about workplace innovation utilizing avatar technologies.

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Work design and wellbeing
in the context of digital change

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Digital technology use in organisations is accelerating, enhanced in part by COVID-19, creating new psychosocial hazards for workers that impair their mental health and well-being. Unfortunately, contributing to the threat for worker well-being, technology is often implemented in a technocentric manner, with little proactive attention to human and organisational issues. Digital technology is no exception to this general historical trend. We apply principles from work design to use as criteria in the design and use of digital technology to better incorporate human and organisational needs. We draw on the SMART work design model (Parker & Knight, 2020), which proposes that high-quality work design has the following elements: Stimulating (work in which one uses and develops one's skills, has variety and challenge, etc.), Mastery-Oriented (work in which one is clear about one's responsibilities and receives feedback), Agentic (work in which one has autonomy, control, and influence over important aspects of one's work), Relational (work in which one has social contact, support, and connection), and Tolerable (work in which the emotional, cognitive, workload and physical demands are experienced as manageable). We then suggest criteria for the design, commissioning, purchasing, and implementation of technology to help ensure that the technology is effectively used and that it supports and enables high quality work. We propose the use of this approach as a helpful participative mechanism for supporting Workplace Innovation in the digital era, and thereby helping to create work that is sustainable for workers' health and well-being

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Divergence or convergence in management approaches of workplace innovation?

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The scientific and non-scientific literature of workplace innovation is reviewed and categorised against the type of research and the level of analysis. A description is provided how the term workplace innovation is interpreted by authors who apply the term. For the distinguished categories of workplace innovation research the prominent representative examples will be described, i.e. research that contributed to the understanding and dissemination of workplace innovation research. While there is much variety in definitions, approaches and applications, models and tool, measurement and operationalisation, the common ground is that workplace innovation is concerned with the 'advancement of work' and more of less contributes to a 'good jobs strategy'. With this in mind the report outlines four social scientific research streams with 'work' as a central theme, that are possibly connected to advanced work and good jobs, namely sociology and organisation research, safety science and organisation research, economic strategy and human resources research, and psychology and behavioural research. It is concluded that convergence seems hard from a scientific point of view, but looks desirable from a practical standpoint. After all, nobody is against a high quality of work. The presentation will suggest an agenda of future research on workplace innovation.

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Digital transformations of traditional work in the Nordic countries

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Drawing on the results of the Nordic Future of Work project (2017–20), this paper explores the effects of digital change on traditional forms of work in a Nordic context, with a focus on manufacturing, banking, retail and elderly care. The aim is to critically assess some of the claims (e.g., Brynjolfsson & McAfee 2014; Frey & Osborne 2017; Schwab 2016) according to which digitalization is causing a dramatic break in the world of work, i.e., the opportunities for employment and contents of jobs. Such claims are mirrored against the core features of Nordic labour market models and our empirical findings.

Our findings, based on an analysis of statistical data and case studies in four Nordic countries (Denmark, Finland, Norway and Sweden), show that digital transformation has thus far not led to reduced employment, slower job growth or increased labour productivity growth. It seems that the impact of digitalization has been less pervasive than often assumed, marked more by gradual adaptation than disruptive change. This observation points out to the significance of different filters, such as labour market institutions, for mitigating the effects of digitalization.

However, there are also differences both among the countries as well as among the industries under review. The main trend in three of the countries between 2000 and 2015 was an upgradation of occupational structure, i.e., a growth of high-paid and high-skilled jobs at the expense of low-paid and low-skilled jobs, whereas in Denmark there were clear signs of job polarization. Digital change in working life obviously opens up different future prospects for employees in different positions.

The paper highlights the importance of workplace-level empirical research on the relationship between digitalization and work. The ways in which digitalization shapes work can be very different in different areas. It is therefore important to understand the specific mechanisms of the different institutional contexts, including sectors, in order to be able to get an overall picture of the impact of digitalization on working life.

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Reduction of thermal stress for improvement of construction workers' well-being

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According to the European statistics on accidents at work, in 2018, one fifth of all fatal accidents at work in the EU-27 took place within the construction sector (EUROSTAT). In 2019, in Poland 137 accidents in high -risk categories occurred in this sector (Agreement for Construction Safety). Dynamic nature of a construction site, uniqueness of each construction, as well as involvement of subcontractors are key challenges that indicate a need for new measures to support construction companies in ensuring safe conditions at work. One of the factors that negatively influences construction workers' well-being at work is their exposure to thermal stress due to either high ambient temperature and/or high work expenditure. Research survey performed on a group of construction workers confirmed that most of the respondents see a need for a use of clothing with a cooling function and they prefer to have it integrated in a T-shirt. The most preferable locations for body cooling are the back (78%), neck (64%) and chest (56%). The highest acceptable mass of the cooling system integrated with clothing is up to 1 kg what was indicated by 78% of respondents. Therefore, within the Smart Safety of Workers pilot in ASSIST-IoT project, a personal cooling system will be integrated with a health monitoring system and their functionality will be evaluated in both laboratory and real-use conditions at the construction site. Initial laboratory tests of the developed cooling system based on a thermoelectric effect indicated that a reduction of local skin temperature of about 3˚C during 6-hour activities in simulated real utility conditions is achievable. Therefore, it is expected that the proposed solution will highly contribute to on the one hand workers' well -being, but on the other hand – also to a prevention of health issues such as a heat stroke or dehydration.

The technological evolution of buses and its impact on the drivers' health and wellbeing

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Bus drivers are exposed to many occupational and environmental hazards, generally associated with poor health and increased mortality. Those health issues include cardiovascular diseases, musculoskeletal disorders, hearing loss, cancers of several organs and mental disorders. However, there are only few cohort studies of bus drivers in the world. Public transport infrastructure has evolved over the past 60 years, including bus design and technology. However, the overall impact of these innovations on drivers' health is unknown.

We hypothesised that technological changes, which aim at improving the vehicles in term of energy consumption, air quality, and comfort, have a positive effect on drivers' health and wellbeing.

To verify this hypothesis, we will use a tool from occupational epidemiology: a job-exposure matrix (JEM). It is a multidimensional table providing, for each workstation in a company, the level of exposure corresponding to the hazards related to that workstation. Since the driver's workstation is buses and trolleybuses, we will create a Bus Exposure Matrix (BEM) by analogy to the JEM. For this purpose, we make an inventory of the Swiss bus fleet of the past 60 years. Each vehicle is characterised by 50 technical attributes, including the type and location of the engine but also the period of circulation. Among these buses, we identified 12 models covering the technological changes in the bus conception, based on the size, type and location of the engine, the gearbox, the driving assistance and driving aids. For each of these models a comprehensive measurement campaign is planned for assessing correspondent occupational exposures. The measured parameters are the electromagnetic fields, the air exchange rate, the PM10, the noise, the vibrations, the seat temperature, the visual contrast and the design of the driver's cabin.

The measurements carried out will serve to estimate exposures in all the buses included in the BEM (n=315). The BEM linked with bus drivers' job histories, health and organisational data will make it possible to assess whether the technical developments of the last sixty years have really improved the working conditions of bus drivers. Although the BEM is based on the Swiss bus fleet, many of these vehicles are built abroad. It is therefore likely that other countries had similar technologies at the same periods. This would make it possible to represent the technological evolution of buses in Europe, among others, based on the typology of the Swiss fleet.

Relationship between different profiles of Night/Shift work exposure and Health-Related Quality of Life

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Objective: In France, about 40 % of employees work non-standard schedules. Among these, night work and shift work are of particular interest because of their deleterious effects on health. Furthermore, Health Related Quality of Life (HRQoL) defined as perceived wellbeing in physical, mental, and social domains of health, is a strong predictor of health events. The objective of this study was to evaluate the association between Night /Shift work and Health Related Quality of Life (HRQoL) by differentiating different profiles of night and shift work exposure.

Methods: This study was conducted among 11,629 workers included between 2012 and 2013 in the French random population-based Constances cohort who had completed the follow-up questionnaire in 2014. HRQoL was measured in 2014 using the standardized SF-12 questionnaire. The corresponding outcomes consisted in two component summary scores: PCS for physical component summary and MCS for mental component summary, with higher scores indicating better HRQoL. Four profiles of Night/Shift work were defined at inclusion: (1) permanent night workers, (2) rotating night-shift workers, (3) rotating day-shift workers (4) former night /shift workers (daytime workers with past night/shift work). Multiple linear regression models were performed to assess the associations between HRQOL outcomes and these four exposure groups, in comparison to daytime workers without any night/shift work during their entire career (reference group).

Results: Among the four exposure groups, the highest mean PCS was found in rotating night-shift workers (51.9 ± 8.3) and the highest mean MCS in permanent night workers (48.2 ± 6.6). The lowest mean PCS and MCS were both found in rotating day-shift workers (49.9 ± 9.2 and 46.6 ± 7.2, respectively).
PCS score did not significantly differ between daytime workers and permanent night workers
(β [95%CI]: -0.70 [-2.00; 0.60]) or rotating night-shift workers (β [95%CI]: 0.58 [-0.58; 1.73]), respectively. Former night/shift workers (β [95%CI]: -0.92 [-1.55; -0.29], p=0.004) and rotating day-shift workers (β [95%CI]: -1.14 [-1.61; -0.67], p<0.001) had a statistically significant lower PCS than daytime workers. Only permanent night workers presented a statistically significant higher MCS (β [95%CI]: 1.16 [0.002; 2.33], p=0.05), compared to daytime workers. No difference in MCS was observed for all other exposure groups.

Conclusion: Former night/shift workers had lower physical perceived health, contrary to permanent and rotating night-shift workers who had similar HRQoL levels than the daytime workers, suggesting the well-known healthy worker effect. Yet, not only night workers, but also daytime workers who had stopped night/shift work (former) still need regular and specific follow-up focusing on the physical components of health. Other non-standard working schedules such as rotating day-shift workers should also benefit from such monitoring.

Can psychosocial job resources buffer the relation between occupational physical activity and heart rate variability?

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Introduction: Increasing evidence from prospective cohort studies has shown that workers who regularly perform demanding occupational physical activity (OPA) suffer an increased risk for cardiovascular disease (CVD) and mortality. However, the currently available evidence is rife with inconsistencies and suffers from methodological concerns, mainly due to the fact that both OPA and health-related outcome variables are usually charted relying on self-reported measures. This study aims to fill that gap and therefore investigates the effects of accelerometer-assessed OPA on heart rate variability (HRV), which can be considered an objective marker of autonomic imbalance and a risk factor for CVD. Furthermore, the available evidence for the negative effects of OPA on health-related outcomes points to the need for devising preventive measures in order to ensure a healthy workplace environment. The second aim of this paper is therefore to explore whether psychosocial resources (i.e. job control and social support) can mitigate the negative effects of OPA on HRV.

Method: Our results are based on a sample of 332 workers employed within the service and production sector from the cross-sectional FEPA (Flemish Employees' Physical Activity) study. OPA was measured using two Axivity AX3 accelerometers, worn on the back and right thigh. The outcome variable, HRV, was assessed with a Faros eMotion 90° heart rate monitor device. The devices were worn for 2 to 4 consecutive working days. The Job Content Questionnaire (JCQ) was used to capture several psychosocial characteristics of the jobs, including job control and social support. Multiple linear regression analyses were used to analyse the associations and interaction effects, adjusted for potential confounders.

Results: Our findings show that standing, physical work demands and moderate to vigorous physical activity (MVPA) were associated with lower values of HRV. By contrast, sitting during work was associated with higher levels of HRV. This indicates that workers with physically demanding jobs who enjoy more rest breaks with sitting experience a lower risk on cardiovascular diseases. With regard to the moderating effect of psychosocial job resources, our results show a buffering effect of job control on the negative relation between standing and HRV. No interaction effects with social support were found.

Conclusion: Our findings show that workers who experience low levels of sitting and high levels of standing, MVPA and physically demanding tasks during work have in fact lower HRV levels. Our results also suggest that higher job control at work may be beneficial to reduce the higher stress levels related to low HRV and eventually may help to reduce early drop-out and sickness absence in workers with physically demanding jobs. Our results thus confirm the value of prevention at work by focusing on giving workers more freedom with regard to their work schedule, work situation and amount and duration of rest breaks. However, in order to provide clear recommendations, we call for future research to implement longitudinal or intervention designs in the study of accelerometer-measured occupational physical activity and well-measured job control and heart rate variability.

Cognitive job demands in three sectors – commonalities and disparities

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During the last couple of decades, cognitive job demands have increased in most fields as the use of information and communication technology (ICT) has rapidly expanded. Today's work is often information-intensive, characterised by constant stimuli arising from complex combinations of virtual and physical work environments. In many fields, information (over)load and other forms of cognitive strain have been identified as significant concerns regarding wellbeing at work and job performance. To develop work practices to reduce cognitive strain and enhance wellbeing at work, we need to recognise central cognitive job demands in different fields.

In this presentation, our aim is to identify cognitive job demands and discuss their commonalities and disparities in three fields. The data consist of informants' written descriptions of straining factors at work that were gathered through an open-ended question in a survey questionnaire during spring 2020. The data includes answers from the following fields: care work (care units for elderly and disabled, n=53), education (comprehensive school teachers, n=72) and ICT (software development and related services, n=46). The data were analysed using qualitative content analysis.

The main cognitive job demands turned out to be quite similar in all three fields. Cognitive job demands could be categorised into eight groups: interruptions, digital communication load, task fragmentation, constant alertness, time pressure, memory load, constant learning, and technology problems. Interruptions refer to various distractions arising from both digital and physical work environments. Especially teachers seemed to experience both. In ICT field, interruptions mainly came through digital devices, while in care work employees described their physical work environment as distracting and tumultuous. Digital communication load stemmed from multichannel communication and was associated with information (over)load and availability pressure. Task fragmentation can be seen as closely related to interruptions and digital communication load, as it depicts the pressure for constant attention-switching and multitasking. The need for constant alertness (including e.g., rapid decision-making) was especially emphasised in care work and education fields. Experiences of time pressure were also similar between care work and education groups, stemming especially from the number of patients or pupils on their responsibility. Time pressure was also brought up in the ICT group, in which it usually was related to tight project deadlines and clients' expectations. Memory load (i.e., the need to keep a great deal of information top of mind) came up in all three fields. As did the need for constant learning, which often happened in a hurry and with inadequate instructions or training. Technology problems were especially prominent in care work and education as employees even needed to work without adequate digital equipment and resources.

To conclude, cognitive job demands seemed to be surprisingly similar in care work, education, and ICT fields. However, the forms and sources of such demands varied, which suggests that different conditions may inflict similar cognitive strain. To develop cognitive and information ergonomics in various fields, it is important to recognise field-specific factors and circumstances behind cognitive strain.

A Bayesian network analysis of psychosocial work environment conditions in COVID-19 scenario

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Background: The ongoing COVID-19 pandemic has been found to have exposed healthcare workers (HCWs) to a complex network of stressful factors such as excessive extra shifts, longer hours to meet the high volume of patient demand, fear of being infected, low support at work(1). Work-related stress has been recognised as one of the major occupational risk factors and understanding the ways healthcare organisations can support HCWs in reducing the risk of physical and psychological burden is crucial. Recently, there has been a growing interest in investigating the interplays among stressors in the workplace. The Network approach might offer a different way of understanding work-related stress. According to this perspective, stress could be considered as an emergent phenomenon, arising from mutual interactions among its constitutive risk factors.

Objective: The primary aim of this study was to investigate associations between specific psychosocial factors at work (demands, control, support) and two work-related health factors (fatigue and overcommitment) among laboratory workers by adopting a network approach.

Method: We computed a graphical Gaussian model (GGM) among 434 Italian laboratory workers. In network analysis, associations (edges) between pairs of psychosocial factors (nodes) are considered for estimating and exploring its overall connectivity among job demands (JD), job control (JC), co-workers support (CS), supervisor support (SS), overcommitment (OC), mental fatigue (MF) and physical fatigue (PhF). To construct the regularised partial correlation networks, we used a graphical LASSO algorithm implemented in the R packages glasso and qgraph. Furthermore, we estimated the strength centrality, closeness, and the betweenness centrality to explore each node's importance in the obtained network. Network accuracy(2) was estimated with the estimation of the bootstrapped confidence intervals of edge-weights from a nonparametric bootstrap procedure (n = 1,000). Then, we estimated the Bayesian network (directed acyclic graph, DAG), which can provide a network structure with directed connections among nodes.

Results: The GGM network contained 7 nodes and 21 edges. It was highly interconnected, and we found that the top edge directly connecting PhF with other psychosocial risk factors was OC (edge weight = 0.23). Concerning MF, we found that the edge directly connecting to PhF was the strongest (edge weight = 0.68). Concerning OC, the top edges were with JD (edge weight = 0.40). Results from the Bayesian network showed that JD and OC were the two factors playing crucial roles in the network system as represented the parent nodes of both mental and physical fatigue. Furthermore, SS showed a direct effect on PhF.

Discussion: To our knowledge, this is the first application of network analysis to identify relationships among occupational psychosocial factors, OC, and fatigue. The findings from both the GGM and the DAG suggest that policies designed to reduce perceived JD and promote high-quality management support system could be crucial for decreasing OC and fatigue in workers. Our study has several limitations: (a) first, we focused only on a very limited number of psychosocial factors, (b) both the GGM and DAGs relied on cross-sectional data, thus excluding any strong inference regarding the potential causal relations between variables.

Motivation profiles in supporting teachers' wellbeing and brain health

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Many teachers experience high level of stress at schools and many teachers are thinking about changing careers. Teachers are also one target group in the Sustainable Brain Health project, coordinated by Tampere University of Applied Sciences (Kestävä aivoterveys, n.d.) that aims at improving wellbeing at work and sustainable brain health.

This paper presents the results of the part of the project, where individual motivating factors of 71 primary school teachers were identified with the Reiss Motivation Profile®. Professor Steven Reiss's large empirical studies resulted in 16 universal life motives or basic desires that motivate all people: Acceptance, Beauty, Curiosity, Eating, Family, Honour, Idealism, Independence, Order, Physical activity, Power, Saving, Social contact, Status, Tranquillity, and Vengeance. The intensity to which they are prioritised by different people is highly individual, assessed by a valid and reliable self-assessment survey Reiss Motivation Profile® RMP (Reiss 2000, 2004, 2008; Mayor & Risku 2015).

It was discovered that a wide range of needs motivates teachers in their work and leisure time; there is no "typical" teacher motivation profile. However, some motives did not follow the normal distribution curve of the general population. Many had a low need for power, which suggests that these teachers were driven by delegating power to others rather than influencing or leading others. It should be considered if delegating more autonomy to teachers may actually increase the number of stress experiences rather than increase motivation.

Another motive that dominated in this group compared to the norm was a low need for independence. That means that these teachers were motivated by close collaboration and teamwork with their colleagues rather than managing everything by themselves. This would highlight the importance of further strengthening collaborative relationships among the staff in educational organisations. Teachers with a low need for curiosity, not seeking knowledge and learning for the sake of it but rather for practical use, experienced the excessive amount of information as particularly stressful (e.g. Suutari 2021). Also this aspect calls for more structures and processes for learning from teachers learning from each other.

A typical workday of a teacher includes a high number of people in a noisy environment. The Reiss Motivation Profile® (RMP) results showed that a third of the teachers had a low need for social contact. Therefore, a silent time during the day rose to be an important topic for mental wellbeing but there were only few opportunities or places for solitude or calm moments.

Understanding their own motivating factors helped the teachers start taking more responsibility for managing their workdays in a way that helped them stay more motivated and energetic. This is also valuable information for school leaders for creating enabling conditions for more sustainable working life.

Negative Employment Changes during the COVID-19 Pandemic and Well-being in U.S. Workers: Substructures of Intersectional Vulnerability in Happiness and Sleep Quality

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Background: Happiness and sleep quality are major indicators of well-being which have been investigated intensively during the COVID-19 pandemic among general population (Allen et al., 2021). However, happiness and sleep quality among workers have received less attention. In one study with an adult sample from 4 states of the U.S. in April 2020, employment changes were not associated with happiness, and sociodemographic differences were not examined (Long, 2021). We previously reported significant associations of COVID-19 related negative employment changes with psychological distress, with evidence for effect modification by race (Matthews et al., 2021). In the present study, we examined associations of COVID-19 related negative employment changes with happiness decline and poor sleep quality in a national sample of U.S. workers, with special emphasis on intersectional socio-behavioral inequality.

Methods: Data were from the Health, Ethnicity, and Pandemic (HEAP) Study, a nationally representative survey of U.S. adults conducted in October 2020. Independent associations of negative employment changes with happiness decline and poor sleep quality in 1,537 workers were examined using weighted logistic regression. Negative employment changes included pay cut, temporary and permanent unemployment versus no change. Happiness decline was defined as becoming less happy during the pandemic compared to before pandemic. Poor sleep quality was determined by an ordinal scale 'terrible or poor' versus 'fair or good or excellent'. We conducted weighted logistic regression to test associations of negative employment changes with well-being, followed by interaction analyses, and stratified analyses if interaction analyses indicated significant interactions.

Results: Compared to workers without employment change, those who experienced pay cuts or permanent unemployment had the increased odds of happiness decline (OR and 95% CI = 1.82 [1.05, 3.16] and 2.32 [1.30, 4.13], respectively), after adjustment for age, sex, race, marital status, education, household income, smoking status, alcohol consumption, and physical exercise. We observed significant associations of pay cuts with happiness decline among particular workers who exercised more than 60/mins a day, compared to workers exercising less (OR and 95% CI = 7.57 [2.79, 20.54]). Workers who experienced permanent job loss exhibited higher odds of poor sleep quality, compared to workers with no employment change (OR and 95% CI = 1.95 [1.07, 3.55]). Further interaction and stratified analyses demonstrated that low-income workers had the highest odds of poor sleep quality with pay cuts and permanent unemployment, compared to higher income workers (ORs and 95% CIs = 2.64 [1.04, 6.67] and 4.14 [1.57, 10.91], respectively); and the associations between negative employment changes and poor sleep quality were much stronger among workers with education level of some college compared with lower or higher education levels.

Conclusion: COVID-19 pandemic related negative employment changes may have adverse effects on workers' well-being as operationalized by subjective ratings of happiness and sleep quality. Our findings indicate that issues of intersectionality may profoundly impact worker responses to such changes, wherein marginalized populations may suffer disproportionate effects. Government and employer policy interventions may be necessary to prevent further reductions in worker well-being and would benefit from considering intersectional equity as an outcome.

Perceived job quality matters: differential trajectories of reported psychosomatic symptoms during the COVID-19 pandemic

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The COVID-19 pandemic has been a highly stressful event in all areas, including work. Exposure to this stressor has led to increases in the level of anxiety in the population (Zacher & Rudolph, 2021), which, in turn, may have contributed to worsening general health and increasing psychosomatic symptoms (e.g., headaches, stomach aches, sleeping and concentrating difficulties, dizziness). Focusing on psychosomatic symptoms and based on the transactional theory of stress and coping (Lazarus & Folkman, 1984), we expect an initial increase of reported psychosomatic symptoms immediately after the pandemic onset. Then, psychosomatic symptoms should decrease progressively as time passes by. Moreover, since job quality has been associated with workers' health and well-being (e.g., Henseke, 2018), we posit that perceived job quality impacts the trajectory of psychosomatic symptoms during the COVID-19 pandemic.

Thus, the objectives of this study are: 1) to determine the trajectory of reported psychosomatic symptoms from January 2020 to January 2021; and 2) to ascertain whether this trajectory depends on perceived job quality.

The study sample was composed of 148 employees (46% women) who participated in a longitudinal study with five measurement points separated by periods of 3 months (January 2020, April 2020, July 2020, October 2020, January 2021). Participants kept the same job from January 2020 to January 2021. Perceived job quality was measured in January 2020 (Time 1), while reported psychosomatic symptoms were measured across all time points (Time 1 to Time 5). The trajectory of psychosomatic symptoms over time and the effects of job quality on this trajectory were modelled by means of discontinuous latent growth modelling fitted with Mplus 8.7.

The main results are summarised below. 1) Consistent with our expectations, results showed that there was a significant increase of psychosomatic symptoms from T1 (January 2020) to T2 (April 2020). 2) The rate of change in psychosomatic symptoms from T2 to T5 was negative and statistically significant. At T5, the sample mean in psychosomatic symptoms was similar to the initial value shown before the pandemic onset (T1). 3) Perceived job quality had an impact on the initial values of psychosomatic symptoms at T1, so that workers with higher perceived job quality showed lower psychosomatic symptoms. 4) Although the increase in psychosomatic symptoms from T1 to T2 did not depend on job quality, job quality did impact the rate of change of psychosomatic symptoms. Concretely, results showed that the higher the perceived job quality, the faster the decrease in psychosomatic symptoms over time.

This study shows the dynamic pattern of change in a health indicator (reported psychosomatic symptoms) in a sample of employees during a period marked by the COVID-19 pandemic. Our results suggest that, after one year, there was an adaptation to the pandemic situation, with psychosomatic symptoms levels going down to reach pre-pandemic values. In addition, this study highlights the importance of perceived job quality as a factor that protects workers from the dysfunctional consequences caused by a stressful event such as the COVID-19 pandemic.

Psychosocial safety climate and organizational measures to reduce psychosocial risks during the COVID-19 pandemic: An exploratory analysis of human resources advisors of Quebec's health and social care establishments

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Context: Recent research shows that organizations that place a high priority on psychological health, i.e., those with a high Psychosocial Safety Climate (PSC), have better psychological health outcomes at work (Biron, Karanika-Murray, Ivers, Salvoni, & Fernet, 2021; Dollard & Bailey, 2021). However, there is a scarcity of evidence on the impact and mechanisms by which the PSC influences organizational health interventions, both in terms of content (e.g., nature of the interventions) and in terms of their relevance and quality.

This is particularly relevant in the context of a crisis such as the COVID-19 pandemic that created massive staff shortages in several sectors, but in particular in the healthcare sector where mental health issues and burnout among caregivers have resulted in mass absences to the point of system breakdown in many cases. PSC is used as a target for intervention upstream of psychological health problems, to promote the implementation of its components - greater commitment and priority given to psychological health, greater communication and participation of all in prevention. In this study, we aim to explore if the use of the PSC construct can be used with key informants to predict the extent, nature, and perceived effectiveness of organizational measures that were initiated or continued during the COVID-19 pandemic. These included measures targeting job demands, job control, workplace social support, rewards, work-life balance, communication and information-sharing, as well as pandemic-specific measures, namely training in infection prevention and control, adequate access to personal protective equipment, the possibility to choose to work or not in a red zone, availability of COVID-19 screening at work, provision of accommodation and financial compensation for quarantined staff and access to psychological support services.

Methods: We used a cross-sectional design to survey 242 key informants, mainly human resources (HR) advisors, across 34 establishments, between May 14 and June 4, 2021. All participants are part of special teams that were appointed in 2018 by the Ministry of Health and Social Services in Quebec to identify and analyze all occupational risks, including psychosocial risks, and support managers and their teams in fostering a culture of prevention. Given their strategic role, the informants are thus well aware of the measures in place in their organization.

Results: Results show that overall, PSC is strongly and positively correlated with the number of measures put in place or continued during the pandemic ($r = 0.59$). Preliminary analyses suggest that a wide variety of measures were implemented in the healthcare sector to improve the psychosocial work environment and mitigate COVID-19-related risks to staff. However, the proportion of respondents who considered these measures to be effective varied. Analyses are ongoing to explore the relation between PSC and the number of implemented

measures according to the nature of these measures and their perceived effectiveness by HR advisors on protecting staff mental health and quality of work life.

Discussion: Very few studies engage HR advisors and key occupational health and safety stakeholders in understanding the implementation of organizational health interventions. Most of the studies use the staff as such, but staff are not always aware of the measures implemented in their organization. It is this lack of awareness that led to the adapted-study design (Biron, Ivers, & Brun, 2016; Randall, Griffiths, & Cox, 2005). Despite its cross-sectional design, this exploratory study has practical implications by linking the PSC directly to intervention issues, rather than just to risk factors and mental health or performance indicators. As such, the PSC could become an early indicator to detect top management and leaders' receptivity to implementing useful and relevant measures to reduce exposure to psychosocial constraints.

Working from anywhere: Balancing the tension between wellbeing and work engagement during the Covid-19

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Background: The outbreak from the pandemic forced a lot of companies to move from in-office work to teleworking. Teleworking has increased from 15% to 40% at the beginning of the Covid-19 crisis across the EU member states (Eurofound, 2020). This was a result of the safety measures put in place by organisations to keep their employees safe. For most, the change was sudden because there was little time to mentally and physically prepare and adjust to the transition.

Previous research on teleworking reveals that workers have different experiences when teleworking. For instance, individuals teleworking express and show more autonomy, they feel more satisfied, show more commitment and are less stressed (Dambrin, 2004; Kelliher & Anderson 2010). In addition, several positive impacts are highlighted in research while teleworking. For example, teleworking was found to enhance employee work effort as well as work effectiveness and efficiency (Åborg, 2002) and can influence employee's performance (van der Lipper & Lippényi, 2020; Lohela-Karlsson, Hagberg & Bergström, 2015; Tremblay & Thomsin, 2012).

Teleworking has also shown to influence individual health and well-being both positively and negatively. On the one hand, teleworking the level of flexibility, can positively influence work-life balance and reduce stress while improving mental wellbeing (Trembley, 2012; Maruyama & Tietze, 2012; Thompson & Prottas,2006). On the other hand, workers teleworking may feel more isolated and lonely, which may increase the stress levels of employees (Sparrowe et al. 2001; Weinert, Maier and Laumer 2015). Research also highlights that when individuals telework for a prolonged period of time, their levels of stress and experience of a positive well-being decrease and thus influence their levels of work engagement and productivity (Hamouche, 2020; Tavares, 2017).

This study aims to explore the tension between well-being and work engagement as well as how teleworkers' experience of working from home during the Covid-19 pandemic might alter this tension and/or mental stress.

Design/methodology/approach: 24 semi-structured interviews were conducted between April and September 2021 with individuals who work full time from home due to the pandemic. The respondents were randomly selected from five organisations that were forced to move to working from home. We analysed our data using the Gioia methodology (Gioia et al., 2013). Given the nature of our study, we moved from inductive to an abductive theorising to not just provide flexible but also a systematic analysis of our data (Gioia et al., 2013; Pratt et al., 2020).

Findings: The preliminary findings indicate that employees teleworking during the pandemic experience both positive and negative well-being, which impacted their levels of work engagement. However, the times when positive well-being was experienced, employees were more engaged and motivated to complete their daily tasks. From the interviews, respondents reported that for the most part, their levels of engagement and motivation remained stable while teleworking. Furthermore, the findings reveal that employees' mental health improved when they felt their managers were involved in their daily activities, especially in situations where feedback was needed.

Gendered realities during Covid-19 in Iceland: Compromises among working parents

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The paper explores the gendered realities of work-life balance among parents in Iceland during the Covid-19 pandemic, in particular how these societal changes reflect and affect the gendered division of unpaid labour, such as childcare, household chores, and mental load, in relation to paid labour. The study draws on ongoing interviews with parents in heteronormative relationships conducted in the spring of 2022. The interviews are a follow-up to research based on written, open-ended real-time diary entries, collected daily for two weeks during the peak of the first wave of the pandemic, which represented the voices of 37 mothers in heteronormative relationships.

The findings from the diary entries showed how burdened the mothers were in their everyday life during the first wave of the pandemic, juggling time between work and childcare. Their words reflected a reality in which they shouldered more of the housework and childcare than their partners. They also described intense emotional labour, as they tried to keep everyone calm and safe. The division of tasks at home lay on their shoulders, causing them stress and frustration. The findings suggested that, even in a country that has been branded as a paradise for women, an unprecedented situation like Covid-19 can reveal and elicit strong gender norms and expectations towards working mothers.

While the personal and rich reflections presented in the diary entries provided invaluable insights into everyday life of working mothers in the first weeks of the pandemic, and as the social reality created by the pandemic has been continuous and has created challenges in the everyday life we found it important to follow up using semi-structured interviews on how the situation has developed and also to give voices to the fathers' experiences.

Well-Being in the New Era of The World of Work

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The U.S. Centers for Disease Control and Prevention's (CDC) National Institute for Occupational Safety and Health's (NIOSH) mission is to develop new occupational safety and health knowledge based on workplace, work, and workforce needs, and to transfer that knowledge into practice for safer and healthier workers. The COVID-19 pandemic has spotlighted what the CDC/NIOSH has known for a long time: holistic workplace and work policies, programs, and practices are critical to ensure the overall well-being of the workforce. This presentation will build upon prior research, practice, policy, and capacity-building efforts shared at the Wellbeing at Work Conference in Paris (2019), by focusing on the since evolved activities of three CDC/NIOSH efforts centered on well-being:

• The CDC/NIOSH Healthy Work Design and Well-being Program—updates will be provided on implementation activities around the following objectives:
  ◦ Address the safety and health implications of advancing technology;
  ◦ Decrease the burden of shift work, long hours of work, and sleep deficiency;
  ◦ Promote a sustainable work and non-work interface;
  ◦ Improve the safety, health, and well-being of workers with non-standard work arrangements;
  ◦ Identify and examine the impact of changes in worker demographics on worker safety, health, and well-being;
  ◦ Reduce work organization-related chronic health conditions among workers; and
  ◦ Improve the safety, health, and well-being of workers through healthier work design and better organizational practices.

• The CDC/NIOSH Total Worker Health® (TWH) Program—updates will be provided on the state of the science as well as the recently launched TWH Worker Well-Being Questionnaire (WellBQ).
  ◦ The TWH approach is defined as "policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness prevention efforts to advance worker well-being." It prioritizes changes to improve physical, organizational, and psychosocial factors that present possible risks in the work environment.
  ◦ WellBQ provides an integrated assessment of worker well-being across multiple spheres, including individuals' quality of working life, circumstances outside of work, and physical and mental health status.

• The CDC/NIOSH Future of Work Initiative—overview will be provided introducing this new Initiative, which identifies innovative transdisciplinary research solutions, practical approaches, and partnership opportunities to address new and existing worker safety, health, and well-being issues related to:
  ◦ Organizational design
  ◦ Technological job displacement
  ◦ Work arrangements
  ◦ Artificial intelligence
  ◦ Robotics
  ◦ Technologies
  ◦ Demographics
  ◦ Economic security
  ◦ Skills

Sustainable employability to innovate the organization of work

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The growing interest in an organisation of work capable of promoting health and human capital has changed over time the approach to well-being at workplace, considering not only the factors that protect health from physical and psychophysical risks as important, but also and above all the value and motivational factors linked to the organisation of work. Sustainable employability (SE) is a process by which workers in their context can convert resources into opportunities to make choices and achieve goals of value over time for themselves and for the organisation (van der Klink et al., 2016). This contribution aims to illustrate the structure of the action research project on SE carried out by two teams of researchers from INAIL and the "Bicocca" University of Milan, as well as the first results of experimentation of the SE model in an Italian pilot company, in order to identify the factors that facilitate or hinder the SE to guide future employment policies and new organisational models. The main research hypothesis is that people are more likely to be employable throughout their lives if their work is not simply a means of earning a living, but is felt as a factor that brings meaning and value to one's life, shared with the organisation where you work. The SE model, reworked by the researchers, starting from the theoretical foundations of Amartya Sen (1985) and van der Klink (2016), provides, in a dynamic, participatory and long-term process, key elements such as inputs or basic resources of individuals, conversion factors, which facilitate access to opportunities of value, capabilities, which in the Senian meaning indicate the potential of the individual to do and be, and finally the functionings that concern the opportunities of value chosen and acted upon. The process, in a virtuous circularity, leads to a well-being shared with the company and sustainability over time. The action research project envisaged the creation of two tools - questionnaires - addressed respectively to workers and company managers and the design of participatory laboratories with facilitation and coaching techniques, aimed at managers and workers. The first data that emerged from the pilot project confirm how much the issue of sustainable employability is innovative and emerging and requires further impetus and insights, in the field of research and policies, as well as models to be transferred, in order to be implemented and effective in the long term in different production realities throughout Europe.

Organisational factors linked to good health and well-being: perspectives from Sweden

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Traditionally, occupational research and interventions have come to focus on reducing risks and injuries in order to protect individuals from negative work-related health consequences. In Sweden, the Swedish Work Environment Act and associated provisions make clear that employers are obliged to systematically monitor and manage the work environment as a way to prevent work-related ill-health. Specifically, this clarifies the responsibilities for prevention at the organisational level. However, work is also known to promote health and well-being by for instance providing individuals with daily structure and a sense of collective purpose as well as with social and developmental opportunities. This points to a need of identifying organisational factors that are linked to health and well-being, which the Swedish government realized and requested its authorities to review the topic. Two Swedish government authorities, namely the Swedish Agency for Work Environment Expertise and the Swedish Work Environment Authority (alphabetical order), were asked to collaborate to produce such a review. A first step in this work included deciding on what is meant by organisational factors, health, and well-being, and to develop working definitions of these key concepts. In brief, organisational factors refer to the organisational conditions, or prerequisites of work including leadership, management, and strategies while health and well-being include individuals' possibilities to maintain health and well-being over time and to fulfil both personal and work-related goals in life. These working definitions formed the basis for a review aiming to identify, through a scoping approach, organisational conditions associated with good health and well-being. In particular, this process focused on the Swedish context, but also included other relevant studies. The overall findings can be grouped into five different categories of organisational conditions linked to good health and well-being, namely 1) leadership, including for instance the number of employees per manager, 2) learning opportunities, such as structures for development, 3) opportunities for communication and participation including transparency, 4) continuous development of goals and values including goal clarity and responsibility at all levels, and 5) strategic and systematic management of the work environment, health and sickness absence, including for instance the promotion of healthy work practices. Importantly, these factors can be drivers of good health and well-being but also characterise successful and sustainable organisations. While these factors are important, less is known of how to adequately and efficiently measure and monitor them at the organisational level. This means that existing challenges involve the identification of low-cost, consistent, and reliable ways of measuring organisational level factors linked to good health and well-being. Such measures would help broaden the scope from preventing risk, injury, and ill-health to consistently promoting occupational health and well-being within organisations.

Providing a safe place to express needs and tensions with drama-based interventions, a way to process to healthier workplaces

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Today, we face a world of hectic complexity and our relationships with work partners, collective actions, economic and environmental purposes are embedded in a complex net of interrelated issues. This observation encourages us to seek out and explore alternatives to analytical approaches to deal with some adverse effects of modern work-related activities. Techniques and method that encompass this complexity should be explored (Morin, 2007). Psychosocial interventions in France are often based on analytical/dualist paradigm, where predefined categories of difficulties are evaluated and considered as separate, before subsequent corrective actions targeting organisational factors are implemented. We will present an alternative form of intervention, where workers are assisted in the determination of (eventually embedded ill-defined and intricate) organisational problems they want to be addressed, and in the raising of collective/organisational awareness of these problems. The technique starts with a very broad interrogation of a group of workers confronted to the same type of tasks in the same organisation: «what characteristic of your work related to the use of ICT would you like to see changed? This question should be answered first individually, then classical techniques of collective intelligence are mobilised to build a convergence between individuals. Soon, the intermediary goal of constructing of a stage play illustrating the problem is put forward, which often leads to the integration of complexity in the representation of the problem and open to a mix on discussion on difficulties and potential solutions. The short play illustrating the problem is then presented to an audience including decision-makers and union representatives. A forum phase follows this presentation. During this phase, the animator leads exchanges with this public around: their perception, understanding of the problem; The nature of solutions they see as adequate. For our research purposes, the exchanges with the public were extensively recorded and transcribed. We will expose in the oral presentation a case where the participants proposed a short play related to the blurred boundaries between work and non-work life.

Results: The analysis shows a progressiveness in the causal explanations mentioned collectively by the public and a great richness of the « causal tree» progressively built. While the first elements mentioned were linked to the individual responsibility of the worker, the technique enabled to express the connection between individual posture and the underlying socio-organisational problems: the use of recovery periods as a „buffer variable", the undesirable effects of organisational strategies the lack of discussion forums in certain teams, etc.

Discussion: This artful intervention methodology provides a way to confront decision-makers and stakeholders with a synthetic picture of a complex problem as it is subjectively perceived by a group of shop-floor workers. The forum phase gives them the opportunity for a collective construction of a complex representation of the difficult situation, in a non-polemical setting, thanks to the artful distance provided by the interaction management. This original way of handling psychosocial tensions could be seen as a way to pacifically take advantage of these tensions to discuss and built new management and organisational practices.

Wellbeing at work and its relationship to contextual performance among IT workers in Covid-19 era

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Introduction: During the Covid-19 pandemic, working environment changed rapidly in many sectors. Health behaviour researchers have speculated that restrictions and unfavourable changes in healthy lifestyle routine may worsen workers' physical and mental health and thus, influence also workers' performance. Therefore, in order to deal with current pandemics successfully, the employer has to pay attention to workers' resources to deal with changed situation and seek ways how to support workers' psychosocial and physical health.

Objective: The overall aim of the study was to evaluate the psychosocial risks and physical fitness and their relationship with job performance among IT workers in Estonia. The following research questions were set:

- How is the healthy lifestyle appreciated and valued among IT workers during pandemics?
- Is there a correlation between the healthy lifestyle and psychosocial risks factors among IT workers during pandemics?
- How is physical and mental health correlated with job task and contextual performance of IT workers?
- How can leaders support IT workers' mental and physical health during pandemics?

Material and methods: A large telecommunication company was selected for the study (*N*=2110 employees). The data collection took place in spring and summer 2021. Both quantitative and qualitative methods were used. In quantitative study, self-administered questionnaire was distributed with elements from validated questionnaires (COPSOQII and IWPQ). Statistical analysis was performed. In qualitative study, six semi-structured online focus group interviews were conducted. Content analysis was performed and main conclusions made.

Results: The results indicated that there are several statistically significant relationships between physical health, mental health and job task or contextual performance. Qualitative study showed that IT workers' lifestyle routines were changed during the pandemic but either to positive or negative direction, depending on the person's priorities, marital status and parental commitments, living location, etc. There were several indications that mental health was affected during the pandemic and workers expect support also at work which enables them to deal with different occupational stressors. Our results are in line with some other recent studies (Fukushima et al, 2021; Ráthonyi et al, 2021; Xiao et al, 2021).

Health promotion interventions are needed to motivate workers to increase their physical activity but also support their mental health and coping with occupational stressors. Innovative smart technologies (digital health coach, mental health chat boxes, etc.) can play an important role in enhancing healthy behaviours of IT workers.

Ethical dilemmas and well-being in teachers' work: A three-way, two-year longitudinal study

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The aim of the present three-way two-year longitudinal study was two-fold: First, to explore what kinds of longitudinal ethical dilemma (Acute dilemmas and Rationalization dilemmas) profiles can be identified among Finnish teachers (n=310) and second, to explore the associations of these profiles with occupational well-being (burnout, work engagement) and recovery from job strain (psychological detachment). Using Latent Profile Analysis, three longitudinal ethical dilemma profiles were identified: rare dilemmas (27%), occasional dilemmas (51%), and frequent dilemmas (22%). Teachers in the frequent dilemmas profile experienced highest burnout levels, however, their job recovery improved over time meanwhile their exhaustion decreased. Teachers in rare dilemmas profile had best well-being in the long term. Conclusions: Teachers need education and interventions to recognise ethical dilemmas and cope with them to enhance their well-being and recover from job strain.

Keywords: ethical dilemma profiles, longitudinal, burnout, work engagement, psychological detachment

Growth mindset and life and job satisfaction: the mediatory role of stress

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Background: People differ in their approach to tasks, success and failure. The model developed by Dweck and Legget (1988) presents two patterns of response related to achievements: helpless pattern and mastery-oriented pattern.

Mastery-oriented people (with a growth mindset) are characterised by satisfaction with action itself and a high degree of determination, persistence and diligence manifested in their actions, which effectively brings them closer to success (Yeager & Dweck, 2012; Dweck, 2019). The relation between growth mindset and well-being is observed in a number of previous studies (Schleicher, 2018; Godlewska-Werner, Mąkinia, Zawadzka, Falkowska, 2020). Growth mindset also helps to cope with difficult situations and is negatively correlated with stress (e.g. Schroder et al., 2017; Mosanya, 2020). While perceived stress reduces satisfaction with life (e.g. Lazarus & Folkman, 1984).

Aim: The main aim of the study was to examine the strength of the relationship between growth mindset and job satisfaction, with the mediating role of perceived stress.

Procedure: The study was conducted during the COVID-19 pandemic.

283 white-collar workers were surveyed (aged M = 30.86; SD = 11.33) (195 women and 88 men). Three questionnaires were used: Growth Mindset Questionnaire which contains 15 items on the approach to difficult tasks, reaction to failure and search for feedback (Godlewska-Werner, Mąkinia, Zawadzka, Falkowska, 2020); Perceived Stress Scale PSS-4 (Cohen et al. 1983 in the Polish adaptation of Atroszko, 2015) and Self-designed questionnaire with 12 items used to measure 3 factors: job satisfaction, satisfaction with employment conditions and satisfaction with personal life.

Results: There is a substantial relationship between growth mindset and life and job satisfaction. However, while perceived stress is included in the model, the relation between these two variables becomes weaker but still significant, which constitutes evidence of partial mediation.

Just-in-time adaptive interventions for dealing with work stress and fatigue

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Background: A just-in-time adaptive intervention (JITAI) is "an intervention design aiming to provide the right type/amount of support, at the right time, by adapting to an individual's changing internal and contextual state" (Nahum-Shani et al., 2018, p. 1). In other words, the goal of JITAI is to address the changing needs of individuals for support. JITAIs are increasingly used to promote health behaviour change (Carpenter et al., 2020; Nahum-Shani et al., 2018).

We developed a JITAI-prototype aimed at supporting health care professionals in managing daily work stress and fatigue due to high workload and/or irregular hours. This prototype operates in a smartphone application (How-Am-I-app). At the end of each shift, the app prompts the user to fill in a short questionnaire on stress, workload, recovery, fatigue and context-related factors. Immediately after this assessment, the developed algorithm results in personalised feedback and provides the user with suitable tips. Also, the prototype provides users with insight in their individual stress and fatigue patterns by providing statistics.

Methods: Last year, we ran a first pilot to test the developed JITAI-prototype for health care professionals on usability. We conducted this pilot among 15 caregivers in a nursing home. With the results, we further adjusted the prototype. At this moment we are preparing to test the modified JITAI-prototype in a second pilot. In this pilot we will focus again on usability and we will explore the added value of using the prototype in practice.

Results: In the presentation we will present the prototype, the results of the first pilot, and, if yet available, preliminary results of the second pilot. We will reflect on lessons learned and future challenges for other JITAIs aimed at reducing work stress and supporting shift workers.

In search of effective interventions to reduce mental health problems in the workplace: an overview of systematic reviews and meta-analysis

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Background: Mental health problems represent one of the leading causes of disability and have significant economic impact. According to the World Health Organization, the estimated cost to the global economy is US$ 1 trillion per year in lost productivity [1].The prevention of mental disorders and the promotion of mental health and well-being are growing fields. Numerous systematic reviews and meta-analysis on interventions aimed at reducing mental health problems in the workplace have been published nowadays.

Objective: This study summarizes the existing evidence and clarifies which type of workplace interventions are effective. We conducted a systematic review of meta-analysis of workplace interventions aimed at reducing employees' psychological distress, burnout and depression separately.

Methods: The search strategy involved searches conducted within several bibliographic peer-reviewed databases, including Cochrane Library, Embase, Medline, PubMed, PsycInfo, Web of Science, CINAHL and EBSCO published from since 2000 to June 2021, supplemented by hand searches and selected citations searches through the reference lists from articles included in the review. Included studies were systematic reviews and meta-analysis of randomized controlled trials (RCTS) using a validated measure to assess psychological distress, depression or burnout. Two reviewers selected and assessed references, and any disagreements were resolved through a team discussion. A total of 5,480 references were reviewed from which 342 potential studies were evaluated and a final 36 studies were included in the analysis (11 for psychological distress, 17 for burnout and 8 for depression).

Results: The included studies evaluated a wide range of interventions. Altogether, most of the evidence from meta-analysis focused at the micro/individual level (e.g. mindfulness, mediation, cognitive behavioral therapy (CBT), relaxation, personal development, stress management, resilience training). CBT and mindfulness-based interventions (MBI) were the interventions with the highest number of papers and results indicate a small effect size overall. Only few studies reported interventions at meso/work organization level (e.g. social support, job redesign, development of work-related skills, team communication) and altogether, there was no evidence that these existing interventions were effective. None of the included studies reported interventions at the macro /risk regulation and communication level.

Conclusion: This study clarified the existing evidence to prevent and reduce mental health problems in the workplace. This provides evidence for action and decision-making and ultimately, to improve the health of the population. Further research on the effectiveness of mental health interventions in the workplace that target work organization conditions and/or risk regulation and communication is required. These interventions may be more effective than individually-focus interventions because they target important dimensions related to work that are associated to the development of health and well-being problems.

Effort-reward imbalance at work and risk of major depressive episode: a cohort study in the U.S.

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Background: So far, there has been no definitive evidence demonstrating a critical role of psychosocial stress in the workplace in the onset of depressive disorders among workers. The theoretical model of effort-reward imbalance has received special attention due to its explanatory power and interventional implications to mental health at work. The majority of research evidence based on prospective cohort studies is from Europe and Canada (Ref 1, 2). To the best of our knowledge, only one U.S. study reported that high effort-reward imbalance at baseline was associated with increased risk of newly manifested depressive symptoms (OR and 95% CI = 1.64 [0.87, 3.09]). However, there were several limitations in this study – the study subjects were old workers (50-64 years), the outcome was not clinical depression, and the follow-up period was short (i.e., 2 years) (Ref 3). Therefore, our objective was to provide new research evidence on effort-reward imbalance and risk of major depressive episode among the U.S. general working population.

Methods: In the nationally representative and population-based Mid-life in the United States (MIDUS) study, effort-reward imbalance was measured by a validated 17-item scale, and diagnosis of major depressive episode was based on the well-established Composite International Diagnostic Interview Short Form (CIDI-SF). Using data from the MIDUS study with a prospective cohort design and a 9-year follow-up period, the effects of effort-reward imbalance at baseline on risk of major depressive episode within the 12 months prior to the follow-up assessment were examined in 1591 workers who were free from major depressive episode within the 12 months prior to the baseline survey, by multivariable Poisson regression analysis.

Results: Compared to workers within the lowest quartile of effort-reward imbalance, it was found that workers within the highest quartile of effort-reward imbalance had elevated risk of major depressive episode (RR and 95% CI = 2.33 [1.20, 4.51]), after adjustment for age, sex, race, marital status, education, household income, smoking, alcohol consumption, and physical exercise at baseline. Further adjustment for other psychosocial stress factors at baseline, including job control and family strain, did not attenuate the observed association.

Conclusion: This is the first piece of research evidence from the U.S. where psychosocial work stress, operationalized as effort-reward imbalance, was significantly associated with elevated risk of major depressive episode nine years later. Future studies may examine effects of changes and trajectories in both exposure and outcome variables during follow-up, in order to determine the impact of psychosocial work characteristics on onset and recurrence of depressive disorders.

The impact of the COVID-19 pandemic on psychosocial work factors and emotional exhaustion among workers in the healthcare sector: a longitudinal study among 1,777 Dutch workers

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Introduction: Healthcare workers are at risk to develop mental health problems and to experience adverse (psychosocial) working conditions during the COVID-19 pandemic. Hospital pressure is higher for COVID-19 care units, suggesting differences between subgroups of healthcare workers in the effect of COVID-19 on mental health and working conditions. Across subgroups of healthcare workers, this study aims to investigate i) the differences in psychosocial working conditions and emotional exhaustion, ii) the changes in psychosocial working conditions and emotional exhaustion during COVID-19 compared to the situation before the pandemic, and iii) the impact of hospital pressure due to COVID-19 on changes in psychosocial working conditions and emotional exhaustion.

Methods: Data on emotional exhaustion and psychosocial working conditions (i.e. job autonomy, psychological job demands, emotional strain, social support from colleagues, and social support from the supervisor) from 1,777 Dutch workers in the healthcare sector were used from the longitudinal study 'the Netherlands Working Conditions Survey- COVID-19'. This study consists of four waves, one wave before and three waves during the COVID-19 pandemic. The study population was divided into three subgroups: working with COVID-19 patients, working with other patients, and not working with patients. For each wave, hospital pressure was determined for each wave using the proportion of COVID-19 patients hospitalised during data collection compared to the peak number of hospitalisations throughout the pandemic. Linear mixed models were fitted to analyse the differences across subgroups of healthcare workers.

Results: Healthcare workers working with patients, in particular those working with COVID-19 patients, had more unfavourable psychosocial working conditions. Healthcare workers working with patients also had a more unfavourable change in psychosocial working conditions compared to the period before COVID-19. No changes were found for emotional exhaustion. An increase in hospital pressure resulted in an improvement of job autonomy and emotional strain among healthcare workers working with COVID-19 patients compared to healthcare workers not working with patients. No differences were found in emotional exhaustion between subgroups of healthcare workers when hospital pressure increased.

Discussion: Psychosocial working conditions are most unfavourable for healthcare workers working with COVID-19 patients. However, an increase in hospital pressure has no further deteriorating effects on psychosocial working conditions. The results stress the importance of workplace interventions to improve the psychosocial working conditions for healthcare workers.

Vicarious traumatisation, mental health, and coping strategies among nurses during COVID-19 outbreak

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The Covid-19 pandemic exerts a significant psychological impact on nurses, as they cope with intense emotional and cognitive demands. Literature showed that the pandemic influenced nurses' stress and psychosocial health due to poor rest, high work overload, lack of control over patient flow, and frequent isolation from family (Hong et al., 2021). Under these circumstances nurses experience severe psychological and mental problems that could generate burnout among nurses (Lam et al., 2020). Additionally, professionals faced suffering, pain and death, and, consequently, they were exposed to the risk of developing vicarious traumatisation (Li et al., 2020). The study aims to investigate the relationship between vicarious trauma and traumatic event impact on both emotional exhaustion and mental health among nurses. In addition, we analysed the role of coping strategies in moderating those relationships. A validated online questionnaire was administered to 184 Italian hospital nurses. The study was carried out in November 2020. Data were analysed using SPSS software. Logistic regression was conducted to analyse the relationship between variables (vicarious trauma and traumatic event impact on both emotional exhaustion and mental health). Interaction analysis via PROCESS macro was performed to analyse the role of coping strategies as a positive resource in moderating those relationships. The results from logistic regression showed that increased emotional exhaustion was significantly associated with high vicarious trauma (W= 5.57, OR=0.377, 95% CI 0.17–0.85, p=0.02), but not with traumatic event impact (p>0.05). Increased mental health problems (anxiety, somatisation, sleep disorders) were associated with two dimensions of trauma event impact: high intrusive thoughts (W= 4.61, OR=0.252, 95% CI 0.07–0.89, p=0.03) and avoidance strategies (W= 10.05, OR=0.225, 95% CI 0.09–0.57, p>0.01). No relationship was found with vicarious trauma (p>0.05). Moderation analysis showed that there is a moderating effect of physical activity/sport coping strategy on the relationship between traumatic event impact on mental health problems (coefficient=0.15, t=1.99, 95% CI 0.01–0.30, p=0.048). Specifically, high frequency of physical activity contributes to decrease mental health problems when traumatic event impact is low. When the latter is high, performing sport at high levels does not seem to improve the relationship. No interacting effect was found with emotional exhaustion (p>0.05).

The results show that vicarious trauma and traumatic event impact are present among nurses during the pandemic, which can affect workers' wellbeing. Sport/physical activity coping strategy showed to be protective in reducing the effect of traumatic event impact on mental health problems. However, coping strategies have an effect when psychological trauma is low. In this sense, the organisations should promptly implement measures to enhance nurses' protection and to lessen the risk of depressive symptoms. In addition, relaxing opportunities at work and individual support based on workers' specific needs should be planned. The pandemic will leave a long-term legacy for healthcare professionals. This is the main challenge that health organisations will have to face in the future to protect mental health of their employees.

Social support at work and posttraumatic growth during the COVID-19 pandemic: the mediating role of emotional regulation and sensemaking

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The COVID-19 pandemic has been considered a traumatic stressor for employees producing negative effects on their health and well-being. However, the pandemic may have also produced some benefits for employees, such as posttraumatic growth (PTG - the transformative positive change that occurs as a result of a struggle with great adversity) (Bowling & Schumm, 2021). In this study we argue that some workplace factors, such as social support at work, may have fostered employees' PTG during the COVID-19 pandemic. In particular, we propose and test an underlying mechanism that explains why social support at work contributes to enhancing PTG.

Specifically, we hypothesise that there is a positive indirect effect of social support at work on employees' PTG via two mediators, emotional regulation and sensemaking, which operate sequentially. We sustain our hypothesis on two main arguments: 1) Based on the posttraumatic growth at work theoretical framework, emotional regulation enables sensemaking that leads to PTG (Maitlis, 2020); and 2) Social Baseline theory highlights the positive effect of supportive social relationships on emotional regulation (Beckes & Coan, 2011).

To test our hypotheses, we used a sample composed of 144 employees (55% women, mean age = 37 years, SD = 10). A time - lagged design was implemented in which data was collected at four time points separated by 3 months (January 2021, April 2021, July 2021, October 2021). Social support at work (T1) was measured by a 3-item scale (Bayona et al., 2015). Emotional regulation (T2) was measured by the cognitive reappraisal 6-item scale (Pineda et al., 2018). Sensemaking (T3) was measured by a 5-item scale (Cann et al., 2011). Posttraumatic growth (T4) was measured by a 10-item scale (Cann et al., 2010). The proposed mediated model was analysed with the macro PROCESS for SPSS and bootstrap analysis was used to test the indirect effect.

Results showed that, as expected, social support at work was positively related to emotional regulation (B=.21; $p < .05$), which in turn, was positively related to sensemaking (B=.32; $p < .01$), which in turn was positively related to posttraumatic growth (B=.47; $p < .01$). Furthermore, the indirect effect (IE) of social support at work on PTG via emotional regulation and sensemaking was positive and statistically significant (IE=.03; CI 90% = [0.0055, 0.0592]).

Our results highlight the importance of having and nurturing supportive social relationships at work since they can be a factor that enables employees' posttraumatic growth in times of COVID-19 pandemic and other stressful events.

Cases of mental crises and psychosocial risk in essential workers

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This paper will be based on an analysis of biographical narrative interviews conducted with essential workers. Essential workers are persons who perform essential work that includes the following characteristics: job providing essential services; work outside (not remote); threat, uncertainty, instability; physical hazards. This type of work is necessary and crucial on the frontline, "first line". "Essential" during the pandemic typically includes health care, food service, and public transport. This is a working definition, because Covwork Team is still working on it. The paper will be based on the research carried out in the project that I co-implement under the NCN OPUS grant: „COV-WORK: Socio-economic consciousness, work experiences and coping strategies of Poles in the context of the post-pandemic crisis" (contract number UMO-2020/37 / B / HS6 / 00479).

The aim of the paper is to discuss the biographical conditions of coping strategies developed by workers in Poland during the Covid pandemic. The main question is what is the interviewee's approach to psychosocial risks? Therefore, I will look for features such as experiencing stress, anxiety, burnout, self-esteem, workload, threats to mental and physical health. It is about psychosocial risk factors which affect workers response to their workplace conditions.

Risk factors for the presence of a high need for recovery, stress complaints and burnout symptoms during mandatory home work in the Covid-19 pandemic lockdown in university staff

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Background and aim: During the first wave of the Covid-19 pandemic in 2020, a total lockdown of universities was implemented by the government in Belgium. University staff was required to work at home. The aim of this study was to assess the mental health state of the university staff during their mandatory home work during the Covid-19 lockdown and to identify factors associated with mental well-being.

Methods: This was a cross-sectional questionnaire study. 702 researchers and staff of a civic university (45.2% response rate), filled out an online questionnaire.

Mental well-being was assessed by three health outcome parameters: need for recovery, stress complaints and burnout symptoms. Need for recovery was assessed by 'The need for recovery scale'. Stress complaints were assessed by using the 10 Secondary Symptoms questions on psychological and psychosomatic complaints of the Burnout Assessment Tool (BAT-S). Burnout symptoms were assessed by using the 23 Core Symptoms questions on exhaustion, mental distance, cognitive impairment and emotional impairment of the Burnout Assessment Tool (BAT-C).

Personal and family related factors were considered as well: gender, age, taking care of ill or old people, family member at risk for Covid-19, number of children <12yrs. at home.

A specific home-work related physical work environment factor and specific worries of the university staff were assessed, as well as the work-private life balance.

Multivariate logistic regression analyses were used to calculate the odds ratios and their 95% confidence intervals for the presence of a high need for recovery, the presence of stress complaints and the presence of burnout symptoms.

Result: Three factors were strongly significant associated with the presence of a high need for recovery: poor work-private life balance (OR 5.14), being worried about long-term work situation (OR's increasing with increasing degree of worries) and no quiet place to work (OR 3.23).

Five factors were significantly associated with the presence of stress complaints: poor work-private life balance (OR 2.31), being worried about long-term work situation (OR's increasing with increasing degree of worries), being able to discuss the worries with the supervisor (no apparent gradient in the OR's according to degree of discussability), gender (OR for women vs. men 2.82) and age category (OR for older workers vs. younger workers 1.87).

Four factors were strongly significant associated with the presence of burnout symptoms: poor work-private life balance (OR 2.80), being worried about long-term work situation (OR's increasing with increasing degree of worries), being able to discuss the worries with the supervisor (only significant for the lowest level of discussability) and no quiet place to work (OR 2.00).

Conclusion: Poor work-private life balance and being worried about long-term work situation were important factors for all three assessed mental health parameters. Being able to discuss worries with the supervisor tended to reduce stress complaints and burnout symptoms. Having no quiet place to work at home was a risk factor for a high need for recovery and burnout symptoms.

Toward a sustainable working life for all ages
– the swAge-model

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Background: The demographic shift is fast becoming a global challenge. Populations ageing rapidly is widely seen as one of the most powerful transformative forces affecting society over the next four decades. Due to the demographic challenge in most countries it is important to consider making working life sustainable. It is obvious that the main factor that distinguishes senior workers from other employees is their age. However, a sustainable working life is of importance in all age groups when working life will be extended to a higher age.

Aim: Towards a theoretical model with an impact on a sustainable working life for all ages, the swAge-model

Method: The theoretical model, the swAge-model, is developed based on grounded theory using qualitative studies, quantitative studies, intervention projects and literature reviews.

Result: The swAge-model incorporates the four determinant spheres, divided into nine determinant areas, of employability and considerations spheres whether individuals can and want to participate in working life or not, i.e.: Health effects of the work environment;
1. self-rated health, diagnoses and disability function variation,
2. physical work environment and injury prevention,
3. mental work environment, stress, effort/reward balance, violence and threats,
4. working hours, the pace at work, and recovery time, Finance;
5. private finances, Relationships and support;
6. Private social environment, family situation, partner, leisure interactions, socialisation,
7. work social environment, participation, social support, leadership and managerial attitudes, discrimination,

Performance of tasks;
8. stimulating and self-crediting tasks, core in work, and work satisfaction,
9. knowledge, skills, competence, and opportunities for development.

Those determinant spheres and determinant areas associate to different ageing concepts, i.e.:
• biological ageing,   • chronological ageing,
• social ageing,   • cognitive ageing.

The model also includes proposed measures at the organisation/enterprise level and at the society level based on the four determinants spheres at the individual level.

Conclusion: The theoretical swAge-model describes how to reflect on working life and presents tools to extend working life in a sustainable way for older workers in modern society. The swAge-model's analysis and measure matrix could be a practical tool at the workplace for managers, HR and employees, and in the critical debate to make the working life sustainable for all ages.

How young adults experience working life:
A quest for meaningfulness, work-life
balance and person-environment fit

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Anno 2022, young adults' working lives take place in changing labour markets characterised by increasing flexible work arrangements and associated employment precariousness, (international) competition for jobs and a weakening nexus between education and employment (Kalleberg, 2020; Thorley and Cook, 2017). These challenges are associated with increased risks of mental health problems (Thorley and Cook, 2017; Winefield et al., 2017), and young adults report mental health problems more frequently than older age groups (Thorley and Cook, 2017). Given these developments, it is important to understand young adults' own perspective on the working life: what do they need and value? The present qualitative study investigated how young adults in the Netherlands experience and deal with present-day working life, to provide directions for sustainable, mentally healthy working lives for this workforce of the future.

In-depth, open interviews were conducted with 15 young adults, aged 21-35 years, purposively sampled with different educational backgrounds (vocational and higher vocational education, and university degree), employment conditions (temporary versus permanent employment, self-employed, part-time versus full-time employment) and job types (e.g. a consultant professional, shoe seller and artist, beautician, social worker). Interviews were transcribed verbatim and open-coded line-by-line using Atlas.ti. Codes were assigned to subthemes and main teams. The data was interpreted by connecting the subthemes and main themes and identifying the common storyline among all interviews.

The results revealed that young adults characterise their working life as a quest for work that fulfils three important needs: finding (a) meaningful work (e.g. work in which one can develop oneself, be of importance and develop meaningful connections with others), (b) good work-life balance and (c) person-environment fit. This quest could be depicted as a process consisting of five (repeating) phases: (1) entering a new work context; (2) gaining experience; (3) (re-)identifying what one needs in work; (4) evaluating the match between needs and the possibility to fulfil these needs in current work; (5) finding ways to cope with a mismatch or trying to make changes. When participants experienced a mismatch between their needs in work and their current work, they described how this was accompanied by mental health issues like feeling exhausted and unhappy, and ruminating about work. The young adults also mentioned that the social context (e.g. parental norms, peers as confidents and comparators, coaches and perceived societal expectations) influenced their working life by directing their needs, values and choices.

To conclude, despite current labour market challenges, young adults may experience fulfilling working lives when they succeed in realising important needs in their work. Young workers may be supported at the start of their working life by discussing (e.g. with their supervisor) what is needed to realise their needs and to set realistic expectations. Furthermore, it is important to take into account how the social context may facilitate or debilitate the realisation of central needs in work.

Work Well-Being in Expats: Investigating Developmental Trajectories of Energy Continuum

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Scholars consider work engagement and burnout as forms of workplace well-being. However, investigation of mutual developmental patterns of work engagement and burnout are extremely rare and non-existent in the expatriate literature. Burnout is a stress syndrome characterised by exhaustion, cynicism, and reduced effectiveness. Well-being literature presents work engagement as the positive antithesis of burnout, characterised by vigour, dedication, and absorption in work. Demerouti et al. (2010) demonstrates existence of different patterns in the association between sub-dimensions of work engagement and burnout. In the present study, we utilised the energy dimension view, i.e, the vigour-exhaustion energy continuum: two unrelated constructs to understand the change in work well-being. More specifically, we sought to identify developmental patterns of work well-being in expatriates and examine if the development is associated with gender, age and type of global-worker (assigned and self-initiated expatriates).

The longitudinal data was collected in 2015 and 2016 with an online questionnaire from two Finnish trade unions, one of them representing academic engineers and architects, and another representing business graduates and economists. Time lag between questionnaires was 6 months and a total number of 527 expatriates answered to the questionnaire at T1, 250 answered at T2, and 177 answered at T3. Attrition analysis did not reveal any significant differences between expatriates who answered the questionnaire and those who did not. We selected only expatriates who were not retired (under the age of 75) or on leave from work during the study period. The final sample used in the analysis is therefore 478 expatriates at T1.

We employed structural equation modelling to study the change in vigour and exhaustion of expatriates as a simultaneous process. The factor structure and longitudinal measurement invariance of the latent vigour and exhaustion variables was confirmed before fitting the second-order growth curve model. The second-order latent growth curve model had a good fit to the data (x^2 = 297.712, df = 179, p < .001, RMSEA = .038, CFI = .961, TLI = .955, SRMR = .073). The findings revealed an overall mean change in vigour of expatriates, but no change in exhaustion. Overall, vigour levels decreased (α = -.19, p = .029) and exhaustion remained stable (α = -.004, p = .97) during the study period. Initial levels of vigour and exhaustion were not related to their subsequent changes over time. The change in vigour was also unrelated to the change in exhaustion and vice versa. Adding covariates to the model showed that older expatriates had higher initial levels of vigour than younger ones, and that women had a different development in vigour as compared to men. Women expatriates showed more positive developmental trajectory (β = .16, p = .03) than men. There were no differences in the initial level or development in vigour for assigned or self-initiated expatriates. None of the covariates were related to initial level or development in exhaustion. Our study broadens the expatriate literature by longitudinally examining developmental trajectories of vigour and exhaustion.

Team composition matters: how psychosocial demands and team resources affect wellbeing

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This study aims to explore how team composition influences the way psychosocial demands and resources affect individual wellbeing. Specifically, it investigates whether the effects of psychosocial demands and resources on individual wellbeing vary depending on the level of cultural diversity within work teams. By doing so, this study responds to recent calls to address the lack of research focus on the role of team composition in workplace stress research.

A research model was proposed to establish the associations between employee wellbeing and psychosocial demands (i.e. a lack of trust and accountability, misunderstanding and disagreement) and psychosocial resources (i.e. managerial support and a positive team environment). To test the model across different team cultural compositions, survey data was collected from a sample of 1,049 participants working in teams consisting of different numbers of nationalities. Participants were then divided into three groups according to the number of nationalities in their working teams: monocultural teams (i.e. one nationality only), bicultural teams (i.e. two nationalities), and multicultural teams (i.e. three or more nationalities). Multigroup structural equation modelling (SEM) technique was adopted to analyse the survey data.

The results indicate that a lack of trust and accountability is positively associated with wellbeing impairments within the whole sample. However, the effects differ depending on the level of cultural diversity within the teams. A lack of trust and accountability is positively associated with wellbeing impairments in only mono- and bicultural teams, and not in multicultural teams. While misunderstanding and disagreement is not a significant predictor of wellbeing impairments in the overall sample, it shows a positive association with wellbeing impairments in multicultural work teams. Contrary to our hypothesis that a positive team environment is negatively associated with wellbeing impairments, our findings suggest a positive relationship between a positive team environment and wellbeing impairments among the whole sample. Finally, in line with our hypotheses, managerial support was found to be negatively associated with wellbeing impairments within the entire sample as well as across all three types of teams.

This study provides theoretical and practical implications to improve our understanding of how different levels of diversity within work teams influence the associations between psychosocial demands, resources and team members' individual wellbeing.

Multiple jobholders and well-being
– intragroup analysis of the phenomenon

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Multiple jobholders may differ in their strategies for undertaking additional work. Some multi-employees specialise in terms of their qualifications, knowledge and experience. Others diversify, using different skills from separate fields. The aim of this study was to find out whether different groups of multi-workers differed in their levels of job satisfaction, relationship satisfaction and life satisfaction. Eighty multiple jobholders aged 21-55 years participated in the study, of whom 47 pursued a specialisation strategy and 33 multi-employees pursued a diversification strategy. The respondents were asked to complete several research tools: the Partner Relationship Questionnaire, the Job Description Questionnaire, the Job Affect Scale, the Life Satisfaction Scale and the Emotions Scale. The results obtained revealed differences in the level of selected dimensions of cognitive job satisfaction (job content and career prospects) and the emotional dimension of life satisfaction. The research conducted in this direction allows, firstly, for deepening the knowledge on multiwork, and secondly, provides a starting point for continuing research on the well-being of multiple jobholders.

'Building better workplaces': practices of well-being in self-managing organisations

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Alternatives for authority and hierarchy in the organisation of work have recently gained popularity in organisational life and aroused research interest in various disciplines. In a self-managing organisation, both power and responsibility are formally and radically decentralised throughout the organisation (Lee & Edmondson, 2017). Research on self-managing organisations has so far focused mostly on their structures and organisational policies, e.g., by highlighting how they differ from hierarchical organisations. A few studies have addressed employee experiences, e.g., well-being, in the context of less-hierarchical organising.

It is argued that the aspiration for self-management has increased the responsibility of workers and, in the same time, the work itself has become more complex and fast-paced. Therefore, it is necessary to consider how employees are able to cope in this environment and to establish new knowledge on the practices and structures that may support their well-being. To achieve this, more knowledge is needed on the micro-foundations of self-managing organising in terms of how individual agency of the employees (Eteläpelto et al. 2013), individual and social practices and structures interact to facilitate both maintaining employee well-being and reaching organisational goals.

The concept of agency has often been utilised in understanding individual activity in work context. It is related with learning, creativity, and autonomy, but also with more radical manifestations, such as resistance for structural power. The study also draws from the agency-structure theory by Giddens (1994), which suggests that while structures guide individual agency, they are simultaneously created and remoulded by it.

The study utilises the data collected in TEOT project 2020-21, implemented by Tampere University and supported by the Occupational Safety and Health Fund. TEOT project examined employees' experiences of their work and workplace in five Finnish work organisations. The organisations that participated can be considered rather self-managed based on the above definition – they were consciously and systematically utilizing and developing self-management as an operational mode.

The presentation is based on a semi-structured interviews of 35 informants. The interviews are analysed qualitatively to understand how informants construct agency, practices and structures in situations that they associate with their well-being at work.

As a result, the proposed presentation uncovers how individuals act towards maintaining balance between individual well-being, organisational purpose and contribution to organisational cohesion and development. Moreover, it is analysed, what kind of practices are constructed to facilitate the agency.

The results broaden the understanding of how self-managing organisations operate and how employee well-being within them may be ensured by facilitating individual agency and allowing for the development of supporting processes and structures.

As the demand for self-management seems to be growing in working life, the results also complement a broader understanding of skills that are useful to the individual in today's working life.

Work organisation and working conditions of platform workers: Challenges for safety, health and wellbeing at work

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In light of the changing world of work due to digitisation, one phenomenon directly related to changes in work organisation and the individual's work situation is the platform economy, which has received a lot of attention lately. Platform work increasingly permeates our everyday life, e.g. in the shape of food delivery, driving and household services, but also through online work such as textual work, programming or creative activities. In the public debate, platform work is often described as a completely new form of digital work that breaks with the rules of traditional employment relationships and is accompanied by a specific work organisation and working conditions. One reason is that digital platforms take over digital work tasks from companies and transfer them to people via the Internet. Moreover, platform work is predominantly performed on a self-employed basis and predominantly outside the company context (Berg 2016; Jäger et al., 2019). Some studies point out that platform work may be new – not so much as an independent new form of work, but rather as an extreme example of a much broader set of trends, namely marketisation, flexibilisation and subjectivisation, affecting all employment forms (Gerber and Krzywdzinski, 2019; Huws et al., 2018).

In our contribution, we take a deeper look at the work situation of platform workers. Based on a literature review (2017 to 2020) we examined the organisation of work and the working conditions of platform work as well as the challenges for the safety, health and wellbeing of platform workers. Furthermore, we try to differentiate the specific conditions that arise from platform work and those that are more likely to be understood as a general trend in a digitised world of work. For this purpose, we draw on the BAuA Working Time Survey 2019 (Häring et al., 2020) to analyse the working conditions of digital workers, i.e. (self) employees whose work is strongly affected by ICT (N=9,382), and compare them with platform workers.

We find that there are similarities in the work situation between platform workers and other (self) employees who also work extensively with digital media (e.g. flexibility, autonomy, work-life balance, blurring boundaries or low income). As the most special feature of platform work is that the entire organisation of work is carried out online according to the rules of an Internet platform, platform work is also accompanied by very specific conditions (e.g. anonymity, monitoring, rating systems or specific communication channels with the platforms). Moreover, for the examination of safety and health risks it is crucial to the specific form of platform work considered. For example, health risks are more likely to be reported by platform workers who perform outdoor tasks (e.g., physically demanding work, traffic accidents, suspicious types of offerings, assaults, and harassment by customers; Broughton et al., 2018; Huws et al., 2016; Huws et al., 2017) than by individuals who perform online tasks working primarily at home.

Overall, it becomes apparent that platform work is associated with opportunities but also risks for employees and is a challenge for the safe and healthy organisation of work (Hünefeld et al. 2021). First research has ignited a debate about the needs for design and regulation of platform work. In the future, the dialogue between platform workers, platform owners, unions and politicians must be continued and important questions regarding the safety and health of platform workers like social protection, minimum wage, psychological and physical wellbeing need to be discussed.

New forms of work, psychosocial working conditions and workers' wellbeing

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Introduction: The changes occurring in the work environment, resulting from the transformation of customs and living conditions, increased competitiveness, globalisation, technological change and innovation, seem to be gaining momentum today (Jaworska, 2014). Changes in the world of work include, in addition to the organisational structure of work, new forms of employment (Budd, 2013) and related changes in working conditions (Schmucker, 2017). New, more flexible forms of employment and work organisation are often treated as an important element of work-life balance (Sadowska-Snarska, 2008). However, at the same time, there are indications that these new forms of work may be less beneficial to workers' wellbeing than traditional forms of employment (Eurofound, 2018).

Aim of the study: The aim of the study was to analyse: 1. the differences in the psychosocial working conditions and wellbeing of employees working in new and standard forms of work; 2. the relationships between psychosocial working conditions and wellbeing of employees working in new forms of work using JD-R framework.

Method: The research was carried out in 2021 in the form of CAWI questionnaire survey (a cross-sectional study). The study group comprised in total 1256 employees working remotely using ICT, freelancers, platform workers and employees performing stationary full-time jobs.

COPSOQ II (Petejrsen et al., 2011) was used to measure psychosocial working conditions and wellbeing indicators (job satisfaction, self-rated health, stress symptoms);

Need for Recovery Scale (Stevens et al., 2019) was used to measure the need for recovery;

UWES-3 (Schaufeli et al., 2019) was used to measure the work engagement;

The Brief Resilience Coping Scale (Piórowska, Basińska, Piórowski, & Janicka, 2017) was used to measure resilience while the Change Readiness Questionnaire (Kriegel & Brandt, 1996) measured tolerance for uncertainty.

Results: The results will be presented and discussed at the conference.

Key challenges affecting the mental health of start-up founders and entrepreneurs

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Introduction: Founders and entrepreneurs of organisations and start-ups create jobs, boost economies and bring innovations to societies into valuable products and services (Van Praag and Versloot 2007). While occupational health and psychological research has studied the impacts of common mental health problems like stress, anxiety and depression on corporate employees' work performance and absenteeism, less research has been dedicated to the study of mental health consequences on entrepreneurs. A study of 242 entrepreneurs revealed that mental health concerns amongst entrepreneurs were present at 72%, a significantly higher rate than that of the control group (Freeman et al. 2015). Another study showed that 65% of start-ups fail due to stress and pressures on mental health (Wasserman 2008). To gain insight into the founders' wellbeing, the aim of this preliminary qualitative study was to explore the key challenges affecting Danish founders' mental health and wellbeing.

Methods: The study collected data among six Danish founders: four CEOs and two Ex-CEOs. The selection criteria were: personal experiences with mental health struggles as founders, being open to talk about it, and that they had deliberately worked and focused on their mental health. The participants were evenly distributed across gender and represented different phases in the entrepreneurship journey. The interviews were conducted online in April 2021 using a semi-structured interview guide and covering: general demographic questions, mental health, and entrepreneurship journey. To deepen our understanding of the phenomenon founders' wellbeing and key challenges, a cross- cases analysis was conducted of the multiple cases with founders.

Results: The study shows that founders struggle mostly with four psychological challenges. First, they often attach their self-worth to the performance of the company. When founders fail to cultivate an identity outside of the start-up, they absorb all the ups and downs the company experiences and become more susceptible to the negative effects of uncertainty. Second, coping with the emotional toll of a business and accepting that situations are sometimes beyond one's control can be difficult for founders striving for high performance. Third, founders often find their initial motivation diminished as the journey wears on. The causes of this motivation loss are often complex and differ between individuals. However, left unexamined and unaddressed, this can result in a negative impact on performance, which in turn creates further stress and anxiety for founders. Finally, faced with a seemingly endless tasks and demands and a sense always lagging behind, inexperienced founders often neglect the importance of setting time and energy aside to take care of themselves.

Conclusion and implications: In sum, mental health is not only essential but may also affect founders' performance at work and effectiveness as a leader. Thus, a founder's mental health can have a substantial effect on individual and team performance, the creation of a strong organisational culture and a safety climate, and the company's overall financial performance. It is therefore crucial that investors continue to support and develop the founder in tandem with the development of the start-up.

Work well-being in the start-up scene from a gender perspective

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This research explores work well-being of start-up companies in Finland during the COVID-19 pandemic from a gender perspective. According to prior research, pre-existing workplace inequalities, difficulties in combining work and private life, and domestic work have more negatively impacted the lives of women during the COVID-19 pandemic compared to men. Furthermore, start-up companies are usually male-dominated, and previous research has suggested that women may have trouble fitting into a highly masculine setting. Therefore, this research compares gender differences of working conditions in start-up companies in Finland. Working conditions are explored through social and psychological factors of work, such as job demands, role expectations, control and freedom at work, and commitment to organisation. Another purpose of this study is to find out how these working conditions are correlated with subjective well-being of employees. This study was carried out in January and February 2022 through online surveys. This study is multidisciplinary and contributes theoretical discussions in the fields of health sciences, gender studies, and management and leadership studies, in particular aspects related to work well-being and working life equality. The research contributes by providing research-based knowledge about gendered working conditions in start-up companies in Finland during a global pandemic.

The art of staying in touch – Exploring daily feedback interactions between a leader and a subordinate in remote work

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Purpose: This study aims to widen understanding on daily feedback interactions between leaders and their subordinates within remote work, as communicated through ICT-tools. The research objective of the study is twofold; first to explore how remote work impacts daily feedback interactions, and second, to discover how leaders can effectively communicate feedback at a distance.

Design/methodology/approach: Thematic content analysis of a qualitative data set consisting of 81 semi-structured interviews with leaders (*n*=29) and remote working subordinates (*n*=52) from six organisations in different industries.

Findings: Remote work changes daily feedback interactions, by making them un-spontaneous and less timely. Frequent communication creates a foundation for a close dyadic relationship resulting in individualised ways to provide feedback. To maintain functioning daily feedback interactions and a close relationship with the subordinate, communication, technological and social skills are required from the leader.

Practical implications: Leaders and HR practitioners may benefit from advancing their understanding of the characteristics of daily feedback interaction in remote work, and what competencies leaders need in communicating feedback. This study will help leaders and HR practitioners manage remote work better, which is vital for organisations as the COVID-19 pandemic has permanently changed the way we work.

Originality/value: Qualitative research on feedback in remote work is sparse. Additionally, the outbreak out of the COVID-19 pandemic has provided an unprecedented context where the feedback process is carried out at a distance in organisations.

Keywords: feedback, remote work, feedback culture, COVID-19, leadership, leader-subordinate relationship, leader-member exchange

Leading brainwork: Relationship between supportive supervisor, cognitive strain and well-being at work

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The need to learn new skills in working life has been drastic during recent years due to changes caused by the global pandemic. For instance, school lockdowns affected teachers' work in many ways. New and sudden competence requirements are cognitive job demands that may cause strain on employees. Cognitive strain is found to be harmful for the well-being of the employees. For example, it can impair work engagement and increase the risk for burnout. However, the supervisor is acknowledged as an important source of support in challenging work situations. Therefore, the aim of this research is to explore if supervisor support is linked to teachers' lower cognitive strain (caused by new and sudden competence requirements) and through that, to better well-being in terms of higher work engagement and lower burnout.

The data for this study was collected 4/2020 via online questionnaire. The total data consists of 1348 respondents. For this study we selected those elementary and high school teachers who had reported that their skill requirements had increased during the pandemic (n=973). Structural equation modelling with robust maximum likelihood estimator (MLR) was used to investigate the measurement models and to conduct the cross-sectional mediation analyses. The first mediation model with work engagement as the outcome had an acceptable fit to the data (x^2 = 279.392, df = 78, p < 0.001, RMSEA = 0.052, CFI = 0.975, TLI = 0.967, SRMR = 0.038). The second mediation model with burnout as the outcome had an acceptable fit to the data (x^2 = 309.632, df = 79, p < 0.001, RMSEA = 0.055, CFI = 0.955, TLI = 0.941, SRMR = 0.043).

Our results show that at the beginning of the pandemic, cognitive strain related to learning new skills was relatively common (scale 1–5, mean = 3.7). The strain was higher among women and older teachers. The results of cross-sectional mediation analyses revealed that there was a positive indirect association (β= .052, p < .001) from supervisor support through strain to work engagement. Supervisor support was directly related to work engagement (β = .18, p < .001) and cognitive strain (β = -.16, p < .001). Strain was directly related to work engagement (β = -.32, p < .001). Therefore, an increase in supervisor support improved work engagement directly, and indirectly by reducing strain. Similarly, in the second model, there was a negative indirect association (β = -.055, p < .001) from supervisor support through strain to burnout. Supervisor support was directly related to burnout (β = -.28, p < .001) and strain (β = -.16, p < .001). Strain was directly related to burnout (β = .34, p < .001). Therefore, increase in supervisor support reduced burnout directly, and indirectly by reducing strain.

The results suggest that strain related to facing new and sudden competence requirements may lead to diminished well-being at work. However, supervisors can support better well-being directly and indirectly through reducing cognitive strain of workers.

Are CEOs Encouraged to Take Too Much Risk?

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In our study entitled 'CEO Risk-Taking Equity Incentives and Workplace Misconduct' available at https://bit.ly/3qTGsir, we examine whether the risk-taking incentives embedded in CEO compensation packages are related to workplace misconduct. We test our predictions using regression and matched sample tests where we control for firm characteristics that might be correlated with workplace violations. Our results provide evidence of a positive relation between CEO risk-taking incentives and the incidence and severity of workplace violations. We find that the relationship between CEO risk-taking incentives and workplace violations is more pronounced in firms with higher cuts to safety-related expenditures and if they are under pressure to improve performance.

Our study has important implications for policymakers as we find that penalties imposed by regulators might not be sufficient to discourage activities that result in workplace misconduct since the potential benefits of such actions outweigh the costs of the misconduct.

A healthy and good working environment drives technical innovation and productivity

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The study shows that a healthy and good working environment has a significant, positive direct impact on innovation as well as a direct and indirect impact on productivity. A healthy and good working environment is measured by composite indicators; practices in line with the Swedish Work Environment Act (SFS 1977:1160). This study contributes with operationalised indicators for organising the work and learning at work based on company practices-bundles. It also contributes to the validation of the indicators by analyses of their direct implications on the company's technical innovation and indirect and direct implications on productivity. The indicators used illuminate practices such as participation and decentralisation, individuals learning at work and, organisational learning.

Results are based on a telephone- and online survey carried out by the Swedish Work Environment Authority 2015. Questions were posed to the management of Swedish companies. The survey data are combined with register data on company structure, personnel and level of employees' education, and innovation data. Response analysis shows that the participating companies represent the private business sector in the Swedish working life appropriately. About 1000 companies with a 53 percent response rate are included in the analysis.

The argument for the study is that information about the healthy and good working environment in terms of human resource management (HRM) is identified to be of great (major) importance for describing the economic development in the European countries. Still, it is not mandatory for the companies to provide these data to the national accounts. Therefore, economic development cannot be fully described. Neither can the importance in terms of good working conditions for the employees be fully described. Further, the theory about the work process within the company and the impact of a healthy and good working environment on the company and the workforce conditions is insufficient (Swedish Agency for Work Environment Expertise, 2020).

The used data follow the EU Meadow Guidelines (Meadow consortium, 2010) that provide harmonised survey questions concerning a healthy and good working environment focusing on HRM practices-bundles, including work organisation and learning at work, in European countries. The construction of the indicators follows the joint guideline for composite indicators by the EU and OECD (OECD, 2008).

The development of the indicators over the past decade is studied and presented in a parallel publication and this result is also submitted to the conference "Wellbeing at Work - Wellbeing in Hectic Times 2022".

Supporting Healthcare Teams using Psychosocial Risk Management Interventions

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The Organisational Health Division, HSE Workplace Health and Wellbeing Unit focuses on enabling the Health Service Executive (HSE) to implement and work towards evidence-based best practice to support sustainable health and wellbeing improvement in the workplace, work environments and among healthcare teams. The ultimate goal of the service is to enhance the experience of healthcare workers while at work thus improving patient experiences, by providing direct support to managers and their teams in preventing and managing complex psychosocial risks in the workplace, work environment and work culture.

The support offered is both proactive (prevention) and reactive (secondary prevention) and is based on the needs requirement of the team. Since 2018, psychosocial interventions and supports have been provided to over 100 teams across the organisation. Practitioners are experienced facilitators with specialist knowledge and expertise in organisational and occupational psychology, health and safety psychosocial work factors, workplace health and wellbeing and workplace health promotion.

Throughout the pandemic crisis, healthcare workers have contended with the risk of infection and potential fear of infecting their families while also adjusting to modification in job roles, responsibilities, work locations and patterns and moving between teams. Change and uncertainty in working hours, workload, tasks etc. have the potential to cause work overload, role ambiguity, reduced autonomy, perceptions of unfairness, decrease in productivity and a potential increased risk of disengagement and burnout (Greenbury, Docherty, Gnanapragasam, Wessely 2020).

The Organisational Health Division uses the PRIMA-EF (Leka, Cox 2008) model for the development of policies, indicators and actions to prevent and manage potential psychosocial risk factors. The model developed by I-WHO (Institute Work Health and Organisation) is supported by the ILO Guidelines, OSH prevention and control as outlined in 'Managing work-related psychosocial risks during the Covid-19 pandemic' (ILO 2020) and enables teams work towards achieving ISO 45003 which is the first global standard giving practical guidance on managing psychosocial health in the workplace.

Once a Psychosocial Risk Management intervention is completed, managers, services and teams, as part of their action plan and outcomes, are also signposted to other supports available. Teams are often now in a state of 'readiness' to work together to learn, grow and embrace change while at the same time understanding their role and important contribution to creating a safe psychosocial work environment.

Successful outcomes have been identified in teams as, improvement of work processes and service delivery, increased morale, reduction in interpersonal conflict and development of agreed actions that contribute to the wider health and wellbeing agenda with a renewed focus towards positive culture change.

The ratification of the ILO Convention No. 190: An opportunity to tackle psychosocial risks

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According to the International Labour Organisation (ILO) Convention No. 190, violence and harassment at work are a violation of human rights, affect the dignity and constitute a threat to equal opportunities. They are unacceptable and incompatible with decent work.

In this perspective, Convention No. 190 defines violence and harassment in the world of work, but also harassment based on gender. The text adopted is a synthesis, on the one hand to be universal, and on the other hand to reconcile different legal approaches to harassment at work. Thus, the Convention brings together approaches based on discrimination law, derived in particular from common law systems of influence, and those based on the employer's safety obligation and the effects on health at work. Indeed, Recommendation No. 206, which clarifies the convention, but which is not binding, states that Member States "should address violence and harassment in the world of work in labour and employment, occupational safety and health, equality and non-discrimination law, and in criminal law, where appropriate." It is also particularly innovative in that it takes into account commuting to and from work and domestic violence.

The Convention is in line with the Preamble of the Declaration of Philadelphia concerning the aims and purposes of the ILO, which points out the need to improve working conditions and make work more humane: "all human beings, irrespective of race, creed or sex, have the right to pursue both their material well-being and their spiritual development in conditions of freedom and dignity, of economic security and equal opportunity." One of the arguments in the preparatory work was that harassment deteriorates the quality of the victim's working environment. Suffering can contribute to isolation, deterioration of relations with colleagues and a lack of investment and motivation in the work. These repercussions can lead to the resignation or dismissal of the person and, in the long term, limit their career prospects. Harassment situations also have negative consequences for the company or administration where the victim works. It is therefore necessary to take into account the associated psychosocial risks in occupational health and safety management.

In that respect, the aim of the presentation is to show how this ILO instrument can be an opportunity for the country which has ratified it to broaden the scope of harassment at work while revisiting the debates on the fundamental right to health protection at work and to make work more humane with regard to psychosocial risks.

Identifying antecedents and outcomes of employee well-being and its implications during Covid times

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In recent times, there have been substantial changes in the context in which work is carried out. Technological advancement, the process of globalization, heterogeneity in the workforce, increase in competition, increase in the number of women in the workforce, are some of the changes that have influenced the work environment. Employee well-being is under increasing threat due to the pressures at work and in society, and hence there is a strong ethical case for focusing on employee well-being. In addition to this, the Covid pandemic has posed severe challenges to organisations and employees. People in low-paid, self-employed, or insecure occupations experienced the greatest impact due to loss of work or the temporary closure of their business. Heightened feelings of anxiety and depression were reported along with fear of post-lockdown anxiety and paranoia. The largest stressor was an overarching feeling of loss (loss of income, routine or social interaction). This paper aims to focus on identifying and systematically analysing the literature published on employee well-being from 2015 to 2021. Specifically, it aims to answer two questions: "Q1 – What are the antecedents and outcomes related to employee well-being?" and "Q2 – How can the findings of this research be used to further research in the domain of employee well-being?". The five stages suggested by Denyer and Tranfield, (2009) for systematic literature review have been followed. Training & Development, Job design, Workplace Environment, Participative management, and Organisation support were identified as antecedents that address the above concerns of the employees. It was also found that the psychological perception of an employee has a significant positive impact on the relationship between job design and employee performance. A significant relationship was found between workplace environment and job performance, where work motivation mediated this relationship. Participation in workplace decision-making and employee voice behaviour have a positive impact on employee well-being. In addition to this, there were also findings in the literature related to well-being that could have important ramifications in the current Covid times. The findings of this research can be used by organisations as a starting point for conceptualising well-being orientated HR-Practices. The review will enable the researchers to improve their understanding of employee well-being in the current scenario and recommend measures to enhance the well-being of employees thereby leading to positive attitudes, outcomes, and performance. This will also enable the organisations to effectively tide over pandemic situations where the employees are stressed and overworked.

Keywords: Employee Well-being, Human Resource Practices, Covid Pandemic.

The role of psychosocial work characteristics on mental well-being in different groups of workers from an Italian survey on health and safety at work

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Introduction: Mental health has become increasingly relevant in occupational health over the last years due to its decreasing trend across Europe. As reported in Eurofound's surveys, mental well-being - measured using the World Health Organisation (WHO) well-being index– moved from 64 in 2016 to 45 in 2021 on average across the EU27, reaching the main drop between summer 2020 and spring 2021. In the last 2 years, existing inequalities have been widening because of the unbalanced impact of the pandemic on vulnerable groups, and this is having an impact on mental well-being as well. Although a significant decrease in mental well-being has been registered across all age and gender groups, the larger drop was found in younger (18-24) and women - particularly women aged 35-44. Mental well-being is shaped by several social, economic, and physical risk factors that are strongly associated with social inequalities (Allen et al.2014), and, among others, occupational aspects and psychosocial factors at work play a crucial role.

Aims: This study aims to identify the psychosocial work characteristics that can have an effect on the prevalence of depressive symptoms in a representative sample of Italian workers in order to contribute in identifying intervention strategies for protecting mental well-being targeted to main vulnerable groups of workers.

Methods: Study participants are a sample of 8,000 Italian workers representative of the national workforce population aged from 16 to 64 year, who answered to the second wave of a cross-sectional survey on workers' perceptions of health and safety at work conducted in 2019 by the Italian Workers' Compensation Authority (INAIL). As a measure of mental well-being, the WHO-5 Well-being index was used, given its strong potential as a screening tool for depression and its recognised applicability across different study fields. A set of logistic and linear regression models were adopted to examine significant predictors of mental well-being. The performance of the models was assessed by "operating Area Under the Curve" (AUC), classification accuracy, sensitivity and specificity, positive and negative predicted values.

Results: Findings showed an average value of mental well-being corresponding to 58.2 (*SD* = 19.9). Several significant differences emerged among some groups based on some sociodemographic and occupational characteristics (as age, gender, occupational position) that allow for identifying vulnerable worker profiles. Moreover, some psychosocial factors at work show to have a detrimental effect on well-being (demands, work /life imbalance), whereas some others may play a role as protective factors (such as support, job satisfaction), and this differs across different groups of workers.

Conclusions: Mental well-being has become a relevant aspect to be considered in these hectic times. The decreasing trend of mental well-being in Europe over the last years calls for studies aiming to investigate the main vulnerable groups of workers and psychosocial work characteristics that can have an effect on the prevalence of depressive symptoms. Findings support the development of strategies and actions for protecting mental well-being targeted to main vulnerable groups of workers.

Psychological, organisational, and technological factors influencing optimal use of Electronic Health Records for end users in hospitals

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Research aim: The two-fold aim of this scoping review is a) to propose a definition of 'optimal use' of Electronic Health Records based on earlier research, and b) to investigate which psychological, organisational, and technological factors are related to optimal use of Electronic Health Records (EHRs) amongst different end users in hospitals.

Theoretical background: Optimal use of EHRs has the potential to reduce costs, increase security and quality of care, and enhance EHR system trustworthiness, thus contributing to sustainable, resilient healthcare (Kruse et al., 2018; Tevik Løvseth & De Lange, 2021). However, problems regarding EHR acceptance and use among healthcare professionals are frequently reported (Vitari & Ologeanu-Taddei, 2018). Psychologic literature suggests that technological self-efficacy may be a key factor in technology acceptance and use (Turja & Oksanen, 2019; Vitari & Ologeanu-Taddei, 2018). Furthermore, a sense of autonomy, competence, and relatedness is essential for intrinsic motivation (Ryan & Deci, 2000). EHRs may erode these basic psychological needs, but may also satisfy the same basic needs. This may affect the motivation for optimal EHR usage. Healthcare professionals' self-efficacy and self-determination can be influenced by HR practices and structural organisational factors. Important HR practices that stimulate positive work behaviour (like optimal EHR use) include involvement and empowerment. Furthermore, implementing new professional behaviour requires management practices focusing on development (Stoffers et al., 2014). To date, an overarching scoping review on the definition and possible antecedents of 'optimal use' of Electronic Health Records is still missing.

Design: A scoping review will be conducted based on a literature search of PsycINFO, Pubmed, Web of Science, Embase and AIS Journals. Inclusion criteria are: a) study is published in English or Dutch, b) study is focused on the use of EHR by different end users, c) study is conducted in a healthcare setting, d) study is not focused on healthcare applications for patients, e) study reports empirical data, and f) study reports any psychological, organisational, or technological determinant(s) of EHR use. Our first search revealed N=7861 relevant records. The scoping review will have a conceptual and exploratory design to meet both of the research aims.

Results: (Preliminary) definition of 'optimal EHR use', organisational factors, psychological factors, and technological factors. The results will be presented and discussed at the conference.

Research/practical implications: The results give insight into which factors influence optimal EHR usage amongst healthcare professionals in hospitals. The results can be used to optimise the use and thus contribute to more cost-effective and resilient healthcare.

Originality/value: There is little research known that gives insight into the definition and multidisciplinarity of optimal EHR use. As a result, our scoping review can provide theoretical as well as practical relevant new results.

Psychometric properties of the Psychological Capital Questionnaire (KKaPsy)

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The aim of the study was to prepare and design a Polish version of the Psychological Capital Questionnaire. The psychometric tool allows synthetic assessment of four personal resources known to play a significant role in effective functioning, viz. self-efficacy, hope, optimism and resilience. The psychometric properties of the questionnaire were developed in two studies, the first one involving 308 people (166 women and 142 men) and the second involving 206 people (111 women and 95 men). Confirmatory factor analysis confirmed that the tool has a four-component structure with an overall score. It is characterised by satisfactory internal consistency (α = .73-.86), stability (rtt = .85-.92) and construct validity. The Psychological Capital Questionnaire is a reliable and valid tool that can be used in research and in practice.

Wellbeing at work in the current hectic times: Reports from the field: Hectic changes in working practices during the current COVID-19 pandemic and their potential effects observed by a psychologist

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This presentation must be considered as a first psychological insight from the field to be taken into account to go further. It summarises some main changes observed over the current period of two years in order, amongst other things, to answer both questions: Have main changes occurred at work and affected wellbeing and psychic health of workers since the COVID-19 pandemic began? If yes, how could we restore wellbeing and healthy conditions by acting upon some factors not only in the ongoing hectic moving, changing and waving world but also in the future?

During the current COVID-19 pandemic approximately 200 workers consulted me as a psychologist specialised in suffering at work. The aim of the following presentation is to put the spotlight on some main and potentially pathogenic changes in working practices and methods which could lead to mental or psychic diseases and behavioural changes in working people. People investigated consulted me at one time or more; in addition, I run some groups of workers I talked with about their difficulties and problems which affected their health and which they encountered at their workplaces since the pandemic began (amongst other things, loss of reference points, teleworking, job loss, undesired change of job in the same or another organisation, increase or decrease in workload, etc.). On the one hand I will analyse, try to understand and explain – i.e. as objectively as possible - some causes of pathogenic changes collected and their psychological clinical effects on workers, and despite the fact that, numerically, the sample is small (200 people), the period covered is short (2 years) and the occupations are carried out in very various sectors (education, industry, hospital, trade, etc.), including self-employed workers; and, on the other hand, I will point out the possible consequences of the current pandemic on the wellbeing and the psychic and mental health, essentially as a function of and in relationship with possible psychosociological consequences of the change in the occupational practices reported and described over time by the patients. I am fully aware that the concerned data and explanations must be supplemented and incremented step-by-step and, if necessary, they must be not only modified, corrected and adjusted over time in the light of the pandemic evolution and its long-time potential development, but also linked with the data I have collected and investigated for more than 25 years in various work fields (e.g. as regards teleworking).

Optimally designing hybrid working: what are the consequences of hybrid working on well-being, productivity and creativity (a literature review)

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Background: Due to the governmental measures to curb the infection rates, working from home has been the norm for many organisations with white-collar workers. If the number of Sars-Cov-2 infections decreases, this measures will be relaxed. This relaxation offers scope for combining working from home with working on location, also called hybrid working. The organisation of hybrid working will differ per organisation. For many organisations, it is still unknown which hybrid working conditions are most desirable. More knowledge is needed on the effects of combining working at home and working at location on productivity, creativity and well-being of employees. Therefore, a literature review is conducted exploring what the consequences are of combining working from home and working at location for the productivity and creativity, as well as the well-being and health of employees. Furthermore, it explores how hybrid working can be optimally designed, learning from working from home during the COVID-19 pandemic.

Methods: A systematic search is conducted in the databases of Scopus and PsycINFO. The following key words were used for the search (among others): "hybrid work", "telework", "remote work", "employer", "employee", "physical health", "mental health", "productivity", and "creativity". The search provided 3853 articles. The process of title/abstract screening is currently ongoing. After the title/abstract screening, a full-text screening will be done and included studies will be selected.

Results: This review will explore the effects of hybrid working on both mental and physical health, as well as the effect on productivity and creativity. Moreover, a focus will be given to how to facilitate an optimal hybrid working environment. The review will not only include papers published during the COVID-19 pandemic, but will broaden the scope to hybrid working in this century. In the following months, we expect to cluster the relevant information and thereby gain insight into the consequences of hybrid working. Recommendations on how to optimally organise hybrid working are expected to be given. At the conference the results will be presented and can be discussed.

Not hectic enough – "I want to go back to a busy train": Impacts of the COVID-19 pandemic on perceptions of safety and wellbeing of employees in the public transport sector

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Background: Age-standardised mortality rates for taxi drivers, chauffeurs, bus and coach drivers showed that people working in public transport were at high risk during the COVID-19 (the disease caused by SARS-CoV-2) pandemic. Nevertheless, the public transport sector was required to continue services throughout the pandemic.

Objectives: This study looked to develop better understanding of employee experiences (workers and organisational leaders) within the surface public transport sector (bus, rail, and tram). Specifically, it aimed to explore the perceived balance of risk and mitigation of SARS-CoV-2 transmission, report on perceptions of safety, and consider how these perceptions impact on employee health and wellbeing within the public transport sector.

Methods: This qualitative study formed part of a larger stakeholder engagement project with the public transport sector. Organisational leaders and workers were recruited (n=18) and semi-structured interviews carried out between January and May 2021. Follow-up interviews with a subset of the initial sample were conducted in January 2022 (n=8). Data were analysed thematically.

Results: Overarching and sub-themes were identified. Themes relating to perceptions and impacts of risk of COVID-19 for employees included: acceptability of risk for workers; perceptions of risk mitigation effectiveness; changes to working practices and their impact on morale and wellbeing; issues with compliance to mitigations such as social distancing and face coverings in passenger and co-worker groups alongside a lack of power to challenge behaviour effectively; and the roles of leadership and messaging. Themes relating to impacts of COVID-19 on working practices and effects on health and wellbeing included: continuing mitigations; impact of increasing passenger numbers; effect of the vaccination program and potential new variants; and the impact of changes to business structure.

Most public transport employees reported feeling safe, with some variation between office-based and public-facing roles. However, the initial phase of data collection was during a time of very low passenger numbers, and the second phase of data collection was at a time when all adults in the UK had been offered three SARS-CoV-2 vaccinations. Mitigation measures were thought generally effective in reducing viral transmission risk, although measures may have a detrimental effect on worker morale and wellbeing. For example, the combination of low passenger numbers and social distancing from colleagues led to feelings of isolation. Issues relating to noncompliance with guidance (of both workers and passengers) and 'in-group' behaviour were identified.

Conclusions: Workers felt confident in the efficacy of mitigation measures, but were concerned about adherence of colleagues and passengers. Further research is required to identify how employees' well-being can be improved through clearer passenger communications and more robust programmes to support workers.

Impacts of mitigations on wider business sustainability and individual wellbeing of staff should be considered in future approaches. Recommendations are made for prioritising employee engagement with colleagues, improving employee health and wellbeing, the importance of strong leadership, and clear messaging in promoting adherence to behavioural mitigations.

Physical activity at work and leisure among hybrid workers

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Our daily lives have been shaken up by the COVID-19 pandemic, which has affected our daily chores, working modes, and thus, daily physical activity. The pandemic has led to an unprecedented growth of teleworking, and presumably the office workers and firms will prefer a hybrid model of working also in the future. However, studies on wide-scale teleworking and daily physical activity are scarce in general working age populations. The health challenge of sustained teleworking may be that the office workers become less active due to e.g. lack of commuting activity, increased overtime working and daily sedentary time. In this study, we will examine the implications of teleworking on daily physical activity among Finnish hybrid workers by comparing within-individual differences in accelerometer measured physical activity during remote working days and working days at the workplace.

Data on daily physical activity during workdays are collected in two Finnish population-based studies: the Finnish Retirement and Aging Study and the Special Turku Coronary Risk Factor Intervention Project. In both studies wrist-worn tri-axial ActiGraph accelerometers have been used for one week to estimate daily physical activity behaviour. Daily logs are used to separate work-time and leisure-time physical activity, and to identify individuals having also remote workdays. Intra-individual differences in physical activity between remote workdays and other workdays were examined using linear mixed models.

The preliminary results from 30 aging workers (mean age 64 (SD 0.7), 83% women) having a hybrid model of working showed that there were no differences between remote vs. other workdays' daily total physical activity (2202; 95% CI 2004-2400 vs. 2229; 95% CI 2031-2427 counts per minute (CPM), respectively) or daily sedentary time (580; 95% CI 542-618 vs. 588; 95% CI 549-625 minutes). However, we were able to separate work-time physical activity from 20 participants and these results showed that the remote working hours accumulated lower physical activity than those spent at workplace (1757; 95% CI 1497-2016 vs. 1972; 95% CI 1712-2232 CPM, p=0.04). The analysis will be finalised after the data collection is finished and these results will be presented at the conference.

This study produces novel scientific information on daily (work-time and leisure-time) physical activity among hybrid workers, which are not yet included in other population-based studies. The findings of this study can be applied to update the existing strategies and guidelines targeted to promote physical activity when working at home.

Well-being at work for workers facing rapid changes of working styles – from a viewpoint of occupational safety field

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Due to recent global trends such as the SDGs, there is a focus on maintaining and enhancing people's health, safety and happiness. The ultimate goal of these is to enhance the well-being of people. Along with this, there is a great deal of interest in the well-being not only of general public but also of workers in the workplace. As a new ISO related to occupational health and safety, Working Group 2 of the ISO Technical Committee TC283 has released the guideline standard for well-being, „ISO 45003 – Psychological Health and Safety in the Workplace – Guidelines Mental Safety and Health in the Workplace – Guidelines". It is currently under development.

On the other hand, with the development of IoT, AI and ICT equipment, collaborative robots, and networks between the real and virtual worlds such as cloud, as in other developed countries, working styles in industrial sites such as manufacturing and construction industries in Japan are rapidly changing.

Well-being in our research project is based on a viewpoint of a positive psychology (Seligman, 1989). In the positive psychology, it is said that people should seek not only aiming from a morbid or problematic state to a healthy state, that is, a „flat" state, but also more aggressively seeking happiness (well-being). Therefore, the purpose of our project is to find a more comfortable and rewarding work environment, starting from a healthy condition in occupational safety field. Until now, occupational safety has endeavored to reduce risk and make all risks acceptable, but in the future, we will not only reduce such so-called negative risks, but also make them happier or self-fulfilling, so-called positive risks. In order to achieve the goal, it might be necessary to establish a worker-specific procedure to objectively measure, evaluate and predict well-being of worker at work.

Until now, safety at work that relied on human attention or was secured by the principle of stopping and isolating machines has changed with the introduction of ICT equipment and/or cloud network so on. There is an increasing number of situations where the principle of „stop and isolation" is not applied due to robot teaching work and working in IMS. Considering the actual situation of workers who have to adapt to such rapid changes, it is necessary to search for the ideal way of stress and well-being peculiar to workers at work. We are conducting some survey of workers in the manufacturing and construction industries using two kinds of well-being scales, i.e. the scale of Subjective well-being established by Diener (1984) and another scale of Psychological well-being developed by Ryff (1989). In this presentation, we outline the two kinds of concept according to well-being in the field of occupational safety. In addition, our future plan is to establish a questionnaire for worker at work to evaluate well-being of worker during working from the viewpoint of occupational safety based on scales by Diener and Ryff.

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PerfectFit@Night, a workplace health promotion program to improve sleep, fatigue, and recovery of night shift workers in the healthcare sector: the development and design of the study

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Introduction: The healthcare needs to be available for patients 24 hours a day, and therewith many healthcare workers work in shift work. However, shift work - particularly night shifts - can have negative acute and long-term effects on health and productivity due to disturbances in the circadian rhythm. Shift work is also associated with unhealthy lifestyle behaviours such as poor sleep hygiene and diet. The PerfectFit@Night intervention is developed to improve sleep and recovery, and reduce fatigue, and therewith to contribute to sustainable employability of healthcare workers. The current study aims to describe the development and study design of the PerfectFit@Night intervention.

Methods: The study population consists of healthcare workers, nurses and physicians, with night shifts in a large Dutch academic hospital. The intervention was systematically developed using a participatory approach, in which literature, data from a feasibility study, interviews with healthcare workers, and experiences from existing good practices were combined. Based on this, the program objectives emerged, which were translated into individual and environmental intervention elements: i) e-learning for healthcare workers to increase knowledge and awareness on a healthy lifestyle during night shifts, ii) a powernap bed to take powernaps during night shifts, iii) the availability of healthy food at the department during night shifts, iv) a workshop on healthy rostering at the level of the department, and v) individual sleep coaching among the high risk group. In a longitudinal study, data will be collected one month before the start of the intervention, in the week before the start of the intervention, and three and six months after the start of the intervention. The primary outcomes are sleep, fatigue, and need for recovery. The implementation process will be evaluated using the framework of Steckler and Linnan.

Discussion: The feasibility of the PerfectFit@Night intervention has been enhanced by creating a program combining literature with workers' needs and experiences from good practices. The feasibility and effectiveness of this workplace health promotion program will be investigated by means of an effect- and process evaluation. If proven effective, PerfectFit@Night can be implemented on a larger scale within the healthcare sector.

A Quantitative Study on the Impact of Covid-19 on the Working Life of New Graduate Engineers, Architects, and Urban Planners in Turkey

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The results of a survey on working conditions of new graduate engineers, architects and urban planners with 0-2 years of experience during the Covid-19 pandemic will be presented at the conference.

New graduate engineers, architects and urban planners constitute a special employee group since they completed their last years of study remotely and started their work-life with online employment relations.

Within the scope of research, the study will investigate the change in employment relations in organisations, control over work, work-life balance and overwork practices for new graduates. The results will also include the expectations of the participants on the future of work, how they felt about studying their last years remotely and working at home in their first year of experience and their anxiety levels due to the pandemic. Mental well-being as well as working conditions and reciprocal relation between the two (De Moortel at al, 2014) will be questioned. Unemployment is another factor to be scrutinised since it has effect on workers' well-being (Wood and Burchell, 2012). The experience of senior employees in working with new graduates will also be questioned.

Questioning the unique experiences and problems of newly graduated engineers, architects and city planners who started their working life under pandemic conditions can help to develop new demands for workers' well-being that is directly related to working conditions (Muñoz de Bustillo 2011).

The online survey period is 15.01.2022-28.02.2022. The participants consisted of paid, freelance and project-based and unemployed junior and senior individuals in the study.

The number of participants is supposed to be 500 at the national level. The study has ethical approval from Turkish-German University. Politeknik (NGO for engineers' solidarity network) is a collaborator in the research. The survey is being conducted online with the snowballing method. Non-probability sampling methodology is applied. Quotas are placed considering sectoral and gender balance.

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Mental health promotion in SMEs: community assets

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Background: One quarter of the EU working population is expected to experience a mental health problem during their lifetime, such as depressive episodes, anxiety symptoms, adjustment reactions, burnout syndrome. The consequences and costs of mental health problems in the workplace affect organisations and their workers. Some experts estimate losses of 136 billion euros linked to lost productivity, as well as problems of absenteeism and extended periods of sick leave. The impact of COVID-19 on workers' mental health has exacerbated this situation, described as the pandemic fourth wave of effects. The inclusion of the perspective of emotional well-being and mental health implies developing strategies for the prevention of psychosocial risks as well as programs for the promotion of positive mental health, support for the maintenance, return to work and inclusion of people with mental health disorders. Research shows that many small businesses feel they lack adequate resources to plan and implement health interventions at work. Part of these resources can come from assets offering free services in the community.

Objective: The Spanish Institute for safety and Health at Work (INSST), aware of the importance of a good mental health at work, has undertaken this project with the purpose of mapping mental health community assets from the fields of public health, occupational health and third sector; to describe the links between them and their roles and the resources that could boost and support actions to promote health, return to work and integration in the company, especially in SMEs. As a secondary objective, the research group will propose an asset-based framework for mental health promotion in SMEs.

Methods: After bibliographic research and creation of a framework for action, it has been decided to make a pilot study in a region of Catalonia looking for identifying community resources, tools, interventions, and programmes at national, regional, local, provincial, and local level which can contribute to improvement and optimisation of mental health at work. This has been done through qualitative research methods (online secondary sources and primary sources by interviewing and organising mental and occupational health stakeholder focal groups).

Results: The methodology, asset cards and asset-based framework will be available at the time of the conference and examples will be shown and subject to comment.

Conclusion: This work can be a model for developing asset cards and interventions in other Spanish areas and make available a reference tool for SMEs that want to undertake actions or improve mental health at work

The transformation of work practices of the Occupational Health Physician during the Covid-19 pandemic

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Introduction: The COVID-19 pandemic legislation in Italy is placing more emphasis on the role of the Occupational Health Physician (OHP), increasing their technical and clinical tasks. New responsibilities have been given to them for ensuring workers' safety and health and countering the spread of the infection. Within companies, the OHP has been more involved in the decision-making process and risk evaluation, especially identifying vulnerable workers ('lavoratori fragili', for instance, people with chronic illnesses, people who are undergoing cancer treatment or some other immunosuppression, pregnant workers) and encouraging employers to consider home working implementation. In this context we have made a study to analyse the impact of the Covid-19 pandemic on the OHP's professional identity and their modus operandi, reading the emerging configurations of this profession.

Material and method: A semi-structured interview to a sample of 20 OHPs operating in the Lazio region was administered through a videoconference system. All participants received an interview consent form and consented to collecting and processing of their personal data as established by the privacy legislation. The interview, lasting about 1 hour, was conducted according to the focused conversation method. The data were analysed in a first step using statistical text analysis software to identify the most significant thematic cluster in work practice. Applying this clusters, a qualitative content analysis of the interviews was carried out. The main results were compared with our previous research (in 2019) on OHP professionalism.

Results and Conclusion: The interviews have revealed an intensification and acceleration of the pace of work for OHP, leading them to become professionals in emergency management. As 'covid-managers' they have been a reference point in the functioning of the company and they have increased both inter-professional (colleagues) and intra-professional (safety officers, employer, workers) relationships. In terms of utility and sense of accomplishment, the COVID-19 pandemic has represented a scenario where the OHP has been able to demonstrate and affirm their professional role which, as emerged in some interviews of our previous research, sometimes is not properly recognised. The OHP's work has highlighted the importance of prevention aspects, beyond current legislation and established routines, drawing attention to the link between health at work and public health. The study is still in progress.

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Detection and treatment of occupational burnout in Switzerland

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Background: Occupational burnout (OB) is associated with employees sufferings, productivity loss and considerable healthcare costs. However, despite increasing research in OB, there is a lack of consensus about aetiology, diagnostic criteria, treatment for OB and prevention. Moreover, in many countries, OB is still not recognised as a distinct mental disorder (Blanc et al., under review; Guseva Canu et al., 2019). Nevertheless, in the context of increasing cases of OB, particularly during the COVID-19 pandemic, a harmonised approach to the definition, detection and treatment of OB is needed (Guseva Canu et al, 2021).

The objectives of this study are to describe the current practices of OB detection and treatment in Switzerland and to identify interventions, which might improve the current situation.

Method: Based on our previous qualitative study, we designed an online survey using REDCap application. The survey was conducted in May-July 2021 in French, German and Italian languages. Swiss general practitioners, occupational physicians, psychiatrists, psychologists and nurses working in occupational health were invited to participate. We used the MAXQDA Analytics Pro software for qualitative data analyses and R and Stata for quantitative analysis.

Results: The study sample included 3216 healthcare professionals (response rate 19%) and was representative of the target population. There were 1723 physicians and 1317 psychologists, of whom 97% and 89%, respectively, reported receiving burned-out patients. The most frequent symptoms of OB were severe sleep problems, exhaustion, anxiety, fatigue, and irritability, but the order and nature of symptoms differed by stage of burnout. The health professionals reported making a differential diagnosis with depression, chronic fatigue syndrome, fibromyalgia, adjustment disorder, and anxiety disorder. Among physicians, general practitioners are the most consulted by burned-out patients (51%), followed by psychiatrists (38%), and occupational physicians (2%). Among psychologists, psychotherapists are the most consulted (73%) followed by clinical psychologists (10%), and occupational psychologists (6%). The majority of physicians (71%) and psychologists (79%) provide treatment to the patients by themselves. Only 11% of patients are referred to occupational physicians, 9% to specialised care centers, and 8% to case managers. Use of medication is common with the antidepressants, benzodiazepines and hypnotics drugs being the most prescribed. Other often-offered therapeutic options are sick leave or reduction in activity rates, cognitive-behavioural psychotherapy, and exercise. The administered treatment depends on OB stage and prescriber's beliefs regarding OB prognostic. The health professionals believe that collaboration with employers would improve patient care; however, 57% of them are rarely or never contacted by employers. They also believe that early detection, interdisciplinary treatment, awareness campaigns about OB and reduction of stigma would ameliorate current practices.

Conclusion: Our results showed a lack of harmonisation in current practices of OB detection and treatment along with a lack of collaboration between important actors. The frequency of medication and sick leave prescription reflect a delayed OB detection. An integrative approach to the detection and treatment of OB, awareness campaigns and development of interdisciplinary networks in Switzerland should prevent OB, facilitate its early detection, and ameliorate patient care.

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How common is occupational burnout in a country with no official recognition, such as Switzerland? A literature review and a cross-sectional analysis from STOBS-VD

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Background: Occupational burnout (OB) has been associated with negative consequences on workers' mental health as well as medico-economic costs such as sickness leaves and long-term disabilities [1]. Our objective was to estimate the prevalence of OB in the general working population using two complementary approaches: an online survey among Swiss health professionals and a meta-analysis of available data.

Method: We reported the prevalence data from our systematic literature review and those estimated in a cross-sectional study using data from STOBS-VD (Standardisation of Occupational Burnout Screening by Vaud's health professionals). As part of STOBS-VD, an online questionnaire was sent to healthcare professionals, including 10,272 doctors and 6,514 psychologists. We asked how many burnout patients/clients in the past month they encountered/treated in their practice. Given the expected lower response rate in this population, we planned to minimise the non-response bias (a type of selection bias) using a marginal calibration method to improve the robustness of estimates from our survey [2]. We calibrated on age, gender, and language of the target population (physicians/psychologists) using data from the membership database of the Swiss Medical Association (FMH) or the Swiss Federation of Psychologists (FSP), respectively. Regarding the literature review, the study protocol was previously registered on the international prospective register of systematic reviews (PROSPERO RecordID=266633) [3]. We screened the literature in databases (PubMed, Embase and PsychInfo) and repositories of Swiss universities (e.g., Serval, BORIS) and included studies that measured the prevalence of OB in Swiss workers of any occupation.

Results: In our systematic review, we included 23 studies of which 22 were meta-analysed in a random-effects model. We estimated the average prevalence rate of severe or clinical OB among the general working population at 3% (95% confidence interval (95% CI) 2-4%). Regarding our cross-sectional analyses, the overall response rate was 19% where the number of respondents was 1,723 (54%) and 1,317 (41%) for physicians and psychologists respectively.
We estimated the calibrated prevalence rate of OB at 6.3% and 8.6% for patients/clients of physicians and psychologists respectively. Among specialties, general practitioners and family doctors reported a calibrated prevalence rate of 4.8% compared to the rate of 8% among the patients of psychiatrists/psychotherapists. Among psychologists, occupational psychologists reported a higher non-calibrated prevalence rate of 25.7%. We were not able to calibrate such estimate due to its small sample size.

Conclusion: By comparison, Switzerland shows as high prevalence rates as in countries where burnout is recognised as a diagnosis. Our estimations, moreover, reflect the pre-Covid-19 pandemic that can be useful to help plan effective interventions during and after the pandemic periods.

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Workplace cyberbullying and mental health: The moderating role of emotion regulation strategies

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Despite growing awareness of cyberbullying, relatively little research has been devoted to the experiences of and responses to cyberbullying in the workplace (see D'Cruz and Noronha, 2013, Coyne et al., 2017). Findings from existing research show that cyberbullying at work can occur at a higher intensity than traditional bullying and an organisation's lack of preparedness to deal with it can have a detrimental effect not only on performance but also on employee engagement levels (Forssell, 2020; Gardner et al., 2016). Research also confirms that cyberbullying, like traditional bullying, is associated with poorer mental and physical health of employees, as well as lower job satisfaction (Coyne et al. 2017; Vranjes et al., 2017).

The aim of this study is to determine whether emotion regulation strategies are a significant moderator in the association between exposure to cyberbullying at work and mental health i.e. the negative association between cyberbullying and mental health will be stronger for employees who are more likely to use suppression strategies and less likely to use reinterpretation strategies

Methods: The research was carried out in 2021 in the form of regional questionnaire surveys. To test our hypotheses, a complete two-wave panel study was conducted, with a time lag of approximately six months between each wave. The study used standardised questionnaires which evaluated the following variables: workplace cyberbullying (ICA-W, Vranjes i in., 2018), emotion regulation strategies (ERQ, Gross & John, 2003), mental health (GHQ-28, Goldberg & Williams, 1991). Data were collected by approaching 500 Polish employees (51.2% women, aged 20–78, M=40.91, SD=10.81) from three sectors - information and communication, financial and insurance activities, professional, scientific and technical activities. The selection criteria required participants to be doing a job that required constant use of ICT (information and communication technologies).

Results: Preliminary statistical analyses showed significant differences in general mental health status as well as in the level of depression symptoms between the group with low exposure to cyberbullying (87.2% of respondents) and high exposure (12.8% of respondents). Further results will be presented at the conference.

Conclusion: It is assumed that the results of this study will make it possible to develop strategies for preventing as well as eliminating the phenomenon of cyberbullying at work, both at the level of the organisation (reduction of stressors at work) and of individual employees (stimulation of adaptive emotion regulation strategies).

An online intervention to enhance psychological capital in ageing employees

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Introduction: Findings from a number of studies indicate the importance of employees' psychological resources in coping with stress, and in maintaining or enhancing employee well-being and job performance (Avey et al., 2010). Moreover, it has been suggested that well-being of ageing employees could be compromised due to the COVID-19 pandemic (Crawford & Karjalainen, 2020; Ayalon i in., 2021) and testing the effectiveness of interventions aimed at increasing the psychological resources of ageing workers may be particularly important in this context (Kooij, 2020).

Aim of the study: The aim of the study was to develop and test an intervention programme to increase the psychological capital of ageing employees.

Method: The group intervention was carried out in 2021 in the form of online workshops followed by additional exercises to be done at home after the workshops. 74 employees aged 50+ took part in the workshops. Psychological capital and well-being were measured pre- and post-intervention.

COPSOQ II (Petejrsen et al., 2011) was used to measure job satisfaction, stress and depressive symptoms.

SWLS (Diener et al., 1985) was used to measure life satisfaction.

SPANE (Diener et al., 2009) was used to measure positive and negative effect.

Results: The results are being analysed and will be presented and discussed at the conference.

iWorkHealth – fostering mental well-being and resilience at the workplace

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The Covid-19 pandemic had not only impacted how businesses operate, but also transformed work arrangements and how people interact at work. With this, concerns over the well-being of employees, the associated work-related stressors and how to assess and address these emerging issues has also become one of the areas that many governments around the world are grappling with.

To help companies and employees identify and manage workplace stressors affecting mental well-being, the WSH Institute (WSHI), in partnership with WSH Council (WSHC), Institute of Mental Health (IMH), Health Promotion Board (HPB) and Changi General Hospital (CGH) developed a web-based company administered survey instrument known as iWorkHealth. iWorkHealth survey was developed based on a review and adaptation of various workplace psychosocial health tools and validated for multi-ethnic Asian working population in Singapore. The tool comprises 71 main questions covering stress-related factors at the workplace that include job demands, job control, job recognition, organisation culture, and relationship with supervisors and co-workers.

When an organisation and its employees use the iWorkHealth:

- Each participating employee will receive an individual report providing information about his/her work stressors and mental well-being
- Employers will receive anonymised aggregated department/company report (minimum 8 respondents required) of the key workplace stressors and overall state of mental well-being of their employees
- Recommendations on mitigating workplace stressors and building employees' mental resilience are included in the reports as well as on the dedicated website (www.iworkhealth.gov.sg)

The iWorkHealth was soft launched by Singapore's President Halimah Yacob at the Together Against Stigma conference in October 2019. A pilot was then conducted for 6 months to obtain users' feedback. About 1,800 employees from 13 companies participated and based on their feedback, the online iWorkHealth tool was enhanced.

The onset of the COVID-19 pandemic in January 2020 created challenges with getting organisations to participate as they focused resources on coping with the pandemic. At the same time, the pandemic which brought about uncertainty and shifts in the way we live and work accelerated the need for organisations to be aware of the impact on their employees' mental well-being. The iWorkHealth tool was officially launched on 24 February 2021 and has been made available at no cost to organisations. As of October 2021, over 200 organisations registered for an iWorkHealth account, where more than 10,000 employees completed the survey and received their individual report.

To better support the management and emerging needs of employees' mental well-being at workplaces, various initiatives were also rolled out during the Covid-19 pandemic. These include the 'Inter-Agency Advisory on Supporting the Mental Well-Being of Workers under COVID-19 Work Arrangements' and 'Tripartite Advisory on Mental Well-Being at Workplaces' released in 2020. Key recommendations include providing employees

with an access to confidential counselling services, training supervisors to spot signs of mental distress and establishing an after-hours policy for work communication. Complementing the advisories, WSH Council together with the Institute of Human Resource Professionals developed a Playbook on Workplace Mental Well-Being in 2021 to provide actionable guidance in the form of plug-and-play templates and tips to help organisations implement mental well-being initiatives at workplaces. The expanded Risk Management Code of Practice was also launched on 10 November 2021 to explicitly cover mental well-being.

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Who cares? Gender differences in unpaid care work and well-being during the corona pandemic

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The corona pandemic has brought radical changes to our private and professional lives but not all employee groups are affected the same way or to the same extent. It turned out that the pandemic is a particularly stressful situation especially for many women. In Germany, especially in times of homeschooling and the shutdown of kindergartens, parents had to look after their children twenty-four-seven. In light of this, women took over the majority of childcare during the pandemic. Facing this intensified double burden of paid and unpaid work also poses a risk to employees' well-being. By analysing the exceptional situation during the corona pandemic, this study aims at identifying appropriate options for action for a healthy management of work and family roles.

The basis for this study is a representative telephone survey of about 2000 employees who live and work in North Rhine-Westphalia (the biggest federal state in the federal republic of Germany) conducted on behalf of the Institute for Work Design of North Rhine-Westphalia (LIA.nrw). In 2021, the focus was on the pandemic effects on occupational safety and health and work design as well as working from home during the corona pandemic.

Every second woman and every third men reported having caregiving responsibilities for children, adolescents or persons in need of care. During the survey period from April to June 2021, almost four out of ten employees worked from home. 29% of female teleworkers but only 18% of male teleworkers reported engaging in unpaid care work while working at home. Women with care responsibilities felt exhausted more often than women without care responsibilities or men in general. Furthermore, especially women with caregiving responsibilities expressed a need for workplace health promotion offers concerning social climate, mental health, stress management, and recovery.

Overall, these findings make it clear that the fulfillment of both - professional and family - roles is a challenge especially in times of a pandemic and particularly for women. To protect employees' well-being in light of conflicting demands from work and private life, preventive actions in different life domains are necessary, also beyond the pandemic. These may include family-friendly policies that encourage a more equal distribution of paid and unpaid work, risk assessments that accompany flexible work hours and telework arrangements, a further sensitisation to the risks of mental stress, and the provision of counselling and support services. Moreover, by providing psycho-social measures, workplace health promotion programs could particularly respond to the demands of female employees with care responsibilities and foster their health and well-being.

The influence of night shift work and long working hours on sleep and fatigue in hospital healthcare workers in Bulgaria

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Introduction: Night shift work and long working hours are more prevalent in healthcare sector, especially hospitals. In Bulgaria also overtime and multiple workplaces are common in healthcare sector, contributing to very long working hours. Some of the main physiological problems associated with night shift work are disturbances in circadian rhythms, sleep disorders and fatigue. Sleep disorders and chronic fatigue are serious prerequisites for increased health risk, impaired efficiency and lower productivity at work, human errors and occupational accidents.

The aim of the study was to follow the effect of night shift work and long working hours on sleep quality and fatigue levels in hospital healthcare workers in Bulgaria.

Methods: The study comprised 2690 healthcare workers of age 48.0 ± 12.0 years from 19 hospitals in Sofia. The anonymous questionnaire was filled in, including Karolinska Sleep Diary and 9-point scale of fatigue, as well as information about the number of night shifts per month, overtime, working at multiple workplaces, working hours per week, history of night shift work. Statistical analyses were carried out with SPSS.

Results: More than 60% of the studied hospital healthcare workers had fast rotating shifts, with >5 night shifts per month and worked long hours on daily and weekly basis. The results showed a significant impairment of sleep in healthcare workers with > 5 night shifts per month for all sleep characteristics, except sleep duration. The level of fatigue was higher in healthcare workers with night shifts (F=10.229; p=0.000). Our data also showed impairment of sleep in healthcare workers with the increase of weekly working hours, especially high for > 61 working hours per week for characteristics "quality of sleep", "insufficiency of sleep" and "fatigue in the morning after awakening", while for "sleep throughout" and sleep quality index (SQI) with both 51-60 and >61 working hours per week. The levels of fatigue increased also with the weekly working hours, the highest with >61 working hours per week (F=13.236; p=0.000). Fatigue, duration of night work, length of service and number of night shifts per month were predictors for impaired sleep (r^2=11.3%; F=50.371; p=0.000), as sleep impaired with the increased levels of fatigue, duration of night work, length of service in years and numbers of night shifts per month. SQI was significantly associated with fatigue levels (r^2=14.3%; F=131.061; p=0.000), as the levels of fatigue increased with impairment of sleep.

Discussion: Our data are consistent with previous findings, that quality of sleep and fatigue are strongly influenced by both night work and long working hours, and impaired sleep and higher fatigue levels can lead to adverse health effects through insufficient recovery. They are linked also with reduced efficiency, productivity and safety at work. In conclusion, more attention is needed on working time arrangements of healthcare workers for protecting the health of healthcare workers, ensuring quality services and safety at work.

Key words: sleep, fatigue, shift work, long working hours, healthcare workers

Potential of workers with disabilities and determinants of its use

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Background: The development of an organisation is conditioned by many factors. One of them is the continuous improvement of the effectiveness of the resources used, especially the intangible ones, i.e. human resources. However, it is not enough to hire the right workers, it is necessary to skilfully use their potential. For this, it is necessary to create a work environment that will support the effective use of the potential of all workers. The most difficult situation concerns the use of the potential of people with disabilities, due to numerous barriers, including: lack of knowledge and skills in managing this special potential, or prejudices towards disabled workers by the management or co-workers.

Objective: To present the results concerning the potential of workers with disabilities and the determinants of its use by employers.

Purpose: The aim is to present the results of research on the opinions of disabled workers on the use of their potential by employers.

Method: Questionnaire research, carried out using the CAWI (Computer Assisted Web Interview) method among 515 workers with various disabilities (movement, sight, hearing, mental and internal organ diseases). The questionnaire developed for the project consisted of 35 questions concerning: the potential of people with disabilities and ways of using it in the workplace, opportunities / barriers in employment, self-assessment of well-being and work ability, acceptance of disability, importance of work in opinions of workers with disabilities and their expectations, as well as three standard tools: COPSOQ, UWES, WEIMS-PL

Results: The obtained data indicate that disabled workers are aware of their potential and that it is not fully used by employers. The key determinants of using the potential of people with disabilities, in their opinion, turned out to be: 1 / employing people with disabilities in positions compatible with their qualifications, 2 / having various experiences by an employee with a disability, 3 / offering training by employers to people with disabilities, 4 / adapting workplaces to meet the needs of people with disabilities. The main „obstacle" in using the potential of disabled people was their treatment of work only as a source of income.

Conclusions: People with disabilities have a potential that they are aware of. However, there is a need to constantly increase employers' awareness of this potential and the possibility of using it. To this end, it makes sense to develop solutions and instruments that make it easier for employers to take advantage of the valuable values and resources that people with disabilities bring to the company.

Ikigai Assessment in a Western Work Context

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The measurement of well-being is widely studied in the literature but may still benefit from a multicultural viewpoint. We present a new approach by measuring the ikigai of individuals. Ikigai is part of the Japanese philosophy of life purpose and well-being. Japanese research offers the Ikigai-9 scale (Imai, 2012) based on a three-dimensional model measuring: optimistic and positive emotions towards life, active and positive attitudes towards one's future, and acknowledgment of the meaning of one's existence. This scale has been translated and tested in the UK (Fido et al., 2019). This study did not confirm the three-dimensional model, results showing a single-factor solution. This research demands further studies on importing ikigai into Western cultures. We are also interested in investigating ikigai in the workplace, whereas it was mainly studied in personal contexts. Examining ikigai in professional contexts could be a valuable contribution to both theoretical and applied research on well-being at work.

For this purpose, we first present a cognitive model of ikigai (Sartore et al., under review), as a dynamic process bridging the gap between the specific Japanese research on the concept and relevant theories on well-being from the literature. This analysis led us to consider that ikigai at work is a process triggered by dispositional factors (e.g., causality orientation), and situational factors (e.g., social and physical work environment), which stimulate self-determination and contribute to meeting basic psychological needs. To support prosocial and sustainable attitudes consistent with the ikigai concept, we underline the link between mindfulness and self-determination. As a result, ikigai generates eudemonic well-being, physical health and performance. A commitment feedback loop allows for self-nourishing this ikigai process.

Beyond the conceptual clarification of ikigai, this model relying on well-documented psychological processes allows us to compose a new measure of ikigai. Indeed, standardised scales have been validated to measure all these components: dispositional factors such as causality orientation, situational factors such as leadership in the workplace, user experience in regards with professional tools, climate for creativity and so on. Standardised scales also exist to measure the satisfaction of basic needs, self-determination, and mindfulness. Finally, it is possible to reliably measure eudemonic well-being, work engagement, physical health and self-assessed performance.

The combination of these scales makes it possible to investigate the existence of a theoretical construct corresponding to the notion of ikigai. Moreover, it permits to study its validity in Western cultures and its applicability to the workplace. We could thus determine how this construct is organised and test the causal links predicted by the model. For example, it would be interesting to understand the relative weight of the different types of motivation (i.e., intrinsic, extrinsic, identified, introjected) on the strength of ikigai for a given population. The model and the assessment tool could also be used to identify relevant ikigai drivers in a specific work context, for example the influence of leadership in organisations, or the impact of technologies on human flourishing in work contexts.

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Impact of psychosocial working conditions on wellbeing of hospital nurses and midwives in Bulgaria

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Introduction: The density of practising nurses and midwives in Bulgaria is one of the lowest in the European Union countries, contributing to long working hours. The prevalence of night work and long working hours, especially in the hospitals, along with intense work, often under time pressure and emotional dissonance of working with patients contributes to high level of stress and poor wellbeing. The aim of the study was to follow the psychosocial working conditions on wellbeing of hospital nurses and midwives in Bulgaria.

Methods: The study is cross-sectional and comprised 1292 female nurses of age 50.0 ± 10.2 years and 176 midwives of age 48.9 ± 13.1 years from 19 hospitals in Sofia. The anonymous questionnaire was filled in, including demographic information, working hours and shift system, with special attention to night work and long working hours. Stress was assessed with a questionnaire based on the short version of the German questionnaire for work-related stress. The participants answered how often they had been emotionally and physically exhausted during the last 4 weeks and completed a self-rated health questionnaire (17 health symptoms). Statistical analysis was carried out using SPSS.

Result: The work was characterised as intense and requiring permanent concentration by both groups. About 90 % of the nurses and midwives felt under strain, emotional dissonance of working with patients and considered the payment unsatisfactory. More than 50 % felt a threat of violence and frustration > 2 times/week and 30 % uncertainty > 2 times/week. Concerning the resources, more than 90% of both groups rated social support, 68.4 % of the nurses and 54.1 % of the midwives rated possibilities for professional development, and 86.2 % of the midwives rated autonomy. 47.9 % of the nurses and 65.5 % of the midwives worked more than 5 night shifts monthly. Overtime was common, 33.5 % of the studied nurses worked overtime >2 times/ week and 28.8 % worked at multiple workplaces, and 16.6 % and 34.9 % of the midwives, contributing to long working hours of 51-60 hours/week in 16.9 % of the nurses and > 61 hours in 11.1 %, consequently 22.8 % and 13.6 % in the midwives. Both groups rated high emotional and physical exhaustion and high number of health complaints, the most frequent in both groups were frequent fatigue, anxiety, forgetting, pains in the muscles and bones, pains in the back, sleep problems. The emotional exhaustion, the key determinant of burnout, was strongly related to time pressure, high strain, frustration and lack of autonomy in the nurses, while physical exhaustion to the same stressors plus age. The time pressure, length of service with night shifts and work tempo were determinants of emotional exhaustion in the midwives, and strain for physical exhaustion.

In conclusion, the work-related stress and working time arrangements raise health concerns for the occupational health of the studied hospital nurses and midwives. Urgent preventive measures are needed to reduce the risks of psychosocial working conditions on wellbeing of nurses and midwives.

Scoping Review: Facilitators and Barriers in the Return to Work of Women Employees

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Breast cancer (BC) ranks into five according to the International Agency for Research on Cancer (IARC)1 and is among the most diagnosed cancers worldwide by 2020. Compared to other cancers, BC is more often diagnosed in women of working age2. The scientific and therapeutic advances have allowed the survival rates of this pathology to be very high and, therefore, a greater number of employees with diagnosis of BC return to work (RTW) after ending their treatments. The main objective of this review is to provide a comprehensive and up-to-date view of the problems faced by employees after the diagnosis and treatments of BC, identifying the factors that act as facilitators or barriers to their RTW. This scoping review followed the framework of Arksey et al.3, and Peter et al. Five databases have been used to reach the objective. 38 articles have finally been included in this scoping review out of 1.030 records found in the literature research. The results show that socio-demographic and individual factors were of a great importance in the RTW, although discrepancies are identified in relation to age, and the educational level due to it is need for more scientific evidence to evaluate these aspects. Nevertheless there is a consensus on certain workplace factors that can act as facilitators such as workplace accommodations to the workplace as well as the flexible working time, good interpersonal relations with colleagues and employers, maintaining communication with the company throughout the process, from diagnosis to effective re-entry, etc. Another facilitator could be an interdisciplinary and coordinated approach between healthcare professionals and health professionals at companies. It was also agreed there are different barriers to RTW such as physical limitations, e.g. the fatigue, in addition to the cognitive and emotional limitations such as the pain and the effects of treatments. As for the impact of RTW on the employee's work -life balance and quality, it is evident that there is a relationship between the labour inactivity after the diagnosis of BC and the decline in the life quality in general. There is a lack of evidence regarding the evaluation of the effectiveness of the different actions reported in the analysed articles. This shows the need to document a greater number of interventions.

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Comparison of well-being of workers involving tunnel construction sites between tunnel miners and workers in general construction company

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Currently, the focus at work is on maintaining and improving well-being, as well as the health and safety of workers. The idea that worker well-being should be achieved at the responsibility of the employer is also becoming increasingly major. Along with this, we are challenging to evaluate well-being of workers in the manufacturing and construction industries. Until now, well-being surveys have mostly asked long-term visions such as one's outlook on his/her life for general public, but this time we surveyed workers working in the workplace. In the present study, two types of well-being scales, subjective well-being scale established by Diener (1984) and psychological well-being scale developed by Ryff (1989) were used. In addition to the well-being survey, a stress survey was also conducted at the same time. Well-being and stress scales were used for 8 employees who belong in tunnel construction-related division at construction company, and 6 miners working at the tunnel construction site. This study is a preliminary study focusing on 1) whether these existing scales can evaluate the well-being and stress of workers at the workplace, and 2) whether we find differences between different jobs but same occupations. As a result, it became clear that on the scale of subjective well-being, the answers of miners were more positive than the office worker for „If I could live my life over, I would change almost nothing". In psychological well-being, the well-being of office workers and miners showed different tends in all six subscales. Regarding stress, the tendency of „helplessness" showed high scores in the miners. These results show that even workers who are in the same tunnel related jobs have different values. It is suggested that office workers who are in charge of management departments such as supervisory business for tunnel construction site and miners who actually excavate tunnels have different values against well-being. Currently, we have established a worker-specific well-being scale. The results of this experiment may also indicate that different well-being scales may be required for the management and the field.

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Work-life Balance among Icelandic municipal employees

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When we feel that we are able to face the challenges of our daily lives, we feel good. Well-being includes, among other things, balancing the different roles we are obligated to play — roles such as being an employee, a parent, a spouse, and a friend. The aim of the study was to examine the balance between work and private life among municipal employees and its correlation with job satisfaction, overtime, and turnover intentions. An online questionnaire was sent to all employees in 14 municipalities in Iceland in 2021; the response rate was 57%.

The results showed a positive relationship between work-life balance and job satisfaction, as well as a negative correlation between work-life balance and overtime and turnover intentions. The results indicate that more work-life balance reflected higher job satisfaction, less overtime, and fewer turnover intentions. It is important that municipal administrators carefully examine the work environment of employees and make improvements as best they can to counteract the torment shown by the results of this study.

The development over the past decade of a healthy and good working environment - the case of the Swedish business

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The study shows that the healthy and good working environment steadily increased until the last measuring before the corona outbreak, driven by a more educated workforce in all types of business production. A healthy and good working environment is measured by composite indicators; practices in line with the Swedish Work Environment Act (SFS 1977:1160). This study contributes with operationalised indicators for organising the work and learning at work based on company practices-bundles. The development of participation and decentralisation, individuals learning at work and, organisational learning over the last decade are followed and analysed as well as a total summary index. The drivers of the indicators are specially studied including information about the company production conditions.

The results are based on four telephone- and online surveys carried out by Statistics Sweden 2009 and Swedish Work Environment Authority 2012 and 2015, and Swedish Agency for Work Environment Expertise 2019. Questions posed to and answered by the management of Swedish companies are used. The survey data are combined with register data on company core production and size, level of employees' education, and personnel data. Response analysis for each survey is performed. They show that the participating companies represent the private business sector in the Swedish working life appropriately. About 700 to 3000 companies, with just over 40 up to 65 percent response rate, are included in the analysis. The higher the number of answering companies, the lower the response rate.

The argument for the study is that statistics, in Europe, and therefore in Sweden, suffers from a lack of standardised data concerning healthy and good working environments. Also, the theory about the work process within the company and the relationship with the workforce conditions are insufficient (Swedish Agency for Work Environment Expertise, 2020). The results of each included survey were presented in Swedish reports and seminars in 2011 and 2017. The result from this new study - The development over the past decade of a healthy and good working environment - the case of the Swedish business - is planned to be published during spring 2022.

Further, information about the healthy and good working environment in terms of HRM is identified to be of great (major) importance for describing the economic development in the European countries. Still, it is not mandatory for the companies to provide these data to the national accounts. Therefore, the economic development in the country cannot be fully described. The indicators are validated by factor- and regression analyses of their implications on the company's technical innovation and productivity. These results are presented in a parallel article, also submitted to the conference "Wellbeing at Work - Wellbeing in Hectic Times 2022".

The data follow the EU Meadow Guidelines (Meadow consortium, 2010) that provides harmonised survey questions in European countries concerning a healthy and good working environment focusing on HRM practices, such as work organisation and learning at work. The construction of the indicators follows the joint guideline for composite indicators by the EU and OECD (OECD, 2008).

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Towards an application of the holistic approach in psychological health at work within manufacturing workers: role of work requirements and organizational support

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As the workplace could be a potential source of stress; studies have shown a link between some dimensions of the work organization, e.g., work overload and a lack of social support, and mental health issues (CSMC, 2017). According to a recent study (OSMET, 2021), 40% of Canadians confirmed they have suffered from work-related psychological distress since the beginning of the pandemic versus a usual average of 35.8%.

It is therefore important to focus on workers' mental health and the organizational levers that could influence it. While the majority of researchers have addressed the pathological approach (Randall & Nielsen, 2010) focused on invalidity, distress, stress, and depression (Keyes, 2007), the present research falls within the holistic approach suggesting that psychological health in the workplace is based on the absence of distress and the presence of wellbeing, and that these two dimensions even distinct are strongly interconnected (Gilbert, Dagenais -Desmarais & Savoie, 2011). This approach would identify the unique levers to activate which would act both on the negative symptoms and the positive aspects of workers' global psychological health (Mihalopoulos, Carter, Pirkis & Vos, 2013).

Among the studies focused on the link between organizational levers and psychological health in the workplace, Bakker and Demerouti's (2007) Job Demands-Resources model has widely been used (Bakker & Demerouti, 2018; Lesener et al., 2019) and recommended by the holistic approach (Gilbert, 2009). Starting from the conceptual flexibility of the model (Bakker & Demerouti, 2007), it is the perception of work requirements (work overload, role clarity and role conflict) as a demand and the understanding of organizational support (concern, justice and innovation) as a resource that will be studied here. This study seeks to determine that these two elements would predict the complete and unified state of psychological health at work and answer Lapointe's (2014) call by empirically testing this theoretical proposal.

A longitudinal correlation analysis made up of two measurement times (n= 67, 59.6% response rate, T1 = work requirements and organizational support (Gagnon et al., 2010), and T2 = psychological health at work (Gilbert, Dagenais-Desmarais & Savoie, 2011)) was conducted on the workers of a manufacturing organization (Smith & Smith, 2021). The regression model (F (2.64) = 8.98, p < 0.001) explains 21.9% of the variance of psychological health at work (R2aj= 0.195). Work requirements are associated with a decrease in psychological health (β = -0.25, p < 0.01, sr^2 = 0,09), whereas organizational support is associated with an increase in psychological health (β = 0.28, p < 0.05, sr^2 = 0.13).

The results empirically support the holistic approach and the Job Demands-Resources model and show the importance of considering work requirements and organizational support which could help other organizations to improve employee's psychological health. This study presents certain methodological limitations, as the sample size, but falls within a larger project aiming to continue the model's empirical validation and integrate the role of High-Performance Work Systems (HPWS) (Combs, Liu, Hall, & Ketchen, 2006; Chen & Chen, 2021) in enhancing wellbeing at work.

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Personal and Work-related Factors in Workplace Stress and Physical Health Outcomes: Scoping Review

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Employee health is a well-researched topic in the fields of health psychology and Human Resource (HR) studies. The disciplines adopt different approaches to researching employee health, hence significant knowledge gaps exist in the impact of work context on physical health.

Health psychology explains individual differences in physical health through physiological stress mechanisms and behavioural processes. From this field we know that job strain is related to higher blood pressure and cortisol reactivity; under chronic strain, these physiological markers can become clinical (Alderling, Theorell, de la Torre, & Lundberg, 2006; Fava et al., 2019; Rosenthal & Alter, 2012). Clinical outcomes can include diabetes, cardiovascular disease, and low-back pain (Hoogendoorn, et al., 2000; Kivimaki & Kawachi, 2015; Melamed, Shirom, Toker, & Shapira, 2006). Nevertheless, health psychology largely neglects the broader work context which influences health outcomes (i.e. HR practices).

HR studies, on the other hand, researches the relationship between work context and wellbeing. HR practices are work practices and policies that companies use to influence the work behaviour of employees, by enhancing abilities, motivation, and opportunities, (e.g. worker autonomy, employee involvement, training). Employee perceptions of such HR practices exert a large influence on one's individual experience at work (Bowen & Ostroff, 2004). There is extensive literature explaining the effectiveness of perceived HR practices on reducing work stress and improving the psychological health of employees (Butts, Vandenberg, DeJoy, Schaffer, & Wilson, 2009; Danna & Griffin, 1999). However, this field has not focused on physical health outcomes.

Additionally, the two fields identify personal characteristics and resources that support health in the workplace context, although they often use different terminology. For instance, psychological capital in HR studies, and psychological flexibility in health psychology (Arnold & Rigotti, 2021; Ramaci, Bellini, Presti, & Santisi, 2019).

Interdisciplinary research is necessary to consolidate current knowledge existing in the two fields. The aim of this research is to examine and map the workplace-related personal and work context factors that influence employee's physical health outcomes. In addition, we aim to identify gaps in knowledge and delineate areas for future research or targeted interventions.

Therefore, we are currently conducting a scoping review, following (Arksey & O'Malley, 2005) framework. Scoping reviews are beneficial in interdisciplinary research, facilitating the identification of overlaps in concepts that may use different terminology across the two fields. The databases WebOfScience, PubMed, and PsycINFO will be searched using terms focused on physical health, personal factors, work-related factors, and workplaces. The scoping review utilises multiple search strategies to capture research from both the health psychology and HR fields. For example, targeting the health psychology field, the search terms "coronary artery disease" or "diabetes" are used, whilst in the HR studies field, the terms "physical health" or "health and wellbeing" are used.

This scoping review will examine and map determinants of employee physical health, researched across the medical and human resource literature. The consolidative nature of this review will provide a framework from which tailored and evidence-based interventions may be constructed; this will be beneficial to both researchers and practitioners.

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Psychosocial Work Environment:
Health and Well-being – two systematic reviews

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The psychosocial work environment is of importance for both individual and organisational health and well-being. The present study reports results from two systematic mapping reviews of existing well performed systematic reviews about 1) associations between psychosocial work environment factors and health-related outcomes for the individual and for the organisation and 2) the effects of work-related interventions addressing the psychosocial work environment and health-related outcomes.

The project was performed within a government assignment to the Swedish Agency for Work Environment Expertise (Mynak). Two separate systematic literature reviews were performed in May 2020 in three electronic databases: PubMed, PsycINFO, and Cinahl, using sets of search terms according to the PICO/PEO structure.

Two authors independently screened 2800 and 3090 references respectively. Relevant systematic reviews, assessed to have a low or moderate risk of bias, were included.

Results of systematic reviews about associations: 42 systematic reviews about psychosocial work environmental factors and workplace health were included. The absolute majority had studied associations between psychosocial work-environment factors and the risk of developing health issues or consequences of health issues, such as a long-term sick leave. Only a few systematic reviews had formulated their question or presented parts of their results where the psychosocial work-environment factors were investigated as being healthy or protective factors. The types of psychosocial work environment factors studied were primarily different types of strain and stressors, such as high demands, low control, low support, low compensation, injustice, social climate, conflict and bullying.

About half of included systematic reviews studied associations between various aspects of the psychosocial work environment and mental health issues, primarily stress-related conditions, depression, anxiety and sleep problems. The other half had studied associations between psychosocial work environment and somatic health issues, primarily cardiovascular disease, musculoskeletal complaints, and pain. Only one systematic review investigated associations between the psychosocial work environment and outcomes at the organisational level.

Results of systematic reviews about work-related interventions: 44 systematic literature reviews investigated effects of work-related interventions on psychosocial environment and health-related outcome for employees and for the organisation. The types of interventions studied were mainly different types of stress-reduction or stress-management programmes or health-promoting programmes, targeting either specific health issues or health in general. Some systematic reviews investigated effects of interventions to counter bullying, promote social support, increase work efficiency and enhance the psychosocial climate at the workplace.

A very large quantity of outcome measures was identified, and several of the authors of the included systematic reviews described having difficulty finding comparable outcome measures in the primary studies, implying the need of core outcome sets.

While a large proportion of the systematic literature reviews included interventions aimed at a general group of working people, many were carried out on healthcare workers specifically. Other occupational groups appearing in the systematic reviews were police and correctional officers, and teachers. Several of the systematic reviews

presented greater intervention effects if the intervention had been implemented at multiple levels in the workplace – such as both the individual and the organisational levels.

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Does social support matter in the workplace?

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Employees' well-being in the workplace is important for both the employees and the organization. Different variables can have negative impacts on employees' health and well-being. Bullying and harassment are two factors that can have negative effects on employees' health, well-being and job satisfaction, but research has shown that social support in the workplace can have a protective effect from negative factors in the working environment. In this presentation we examine social support at work amongst the employees of Icelandic municipalities and its relationship to job satisfaction, bullying and harassment. The study is based on an online survey conducted in 2021. A total of 4,973 employees answered the questionnaire in part or in full after three reminders (57% response rate). The majority of the participants in the study were women (82%), but this gender ratio was representative of the population. The results show that social support measured 4.2 on a scale of 1–5; 87% of the participants were rather often or always satisfied with their job, 8% had experienced bullying at work, 2% had experienced sexual harassment and 3% had experienced gender-based harassment. Social support has a positive, moderately strong correlation with employee job satisfaction and a weak negative correlation with bullying at work. Based on the results, social support is an important factor related to the job satisfaction of employees and is a protective factor against bullying at work. This finding demonstrates that managers and those responsible for employee well-being in the workplace should focus on social support at work, especially now that the psychosocial work environment is fragile because of COVID-19.

From aristocrats to artisans, why and how well-being programmes emerge and evolve differently

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My preliminary research reveals that there is a marked contrast between how Irish subsidiaries of large multinational corporations, and small Irish organisations implement workplace well-being programmes.

Despite being part of the same institutional setting, in broadly the same institutional context, large firms (MNC subsidiaries) promote workplace well-being from a strong foundational position which differs from that of small indigenous organisations.

Local subsidiaries of large MNCs benefit from a foundation which is anchored by sophisticated, contemporary and mature HRM systems with a full range of policies and practices at their disposal. This has enabled such organisations to leverage off those policies and practices, and package select elements under the 'workplace well-being' umbrella. This is done with typical efficiency, yet the outcomes of such policies and practices are not clearly defined or measured.

However, local organisations in this study are smaller scale, have emerging HRM systems with less sophisticated HR policies and practices at their disposal. This can inhibit their efforts to implement workplace well-being programmes. The key protagonists working for well-being in these small organisations undertake considerable institutional work in creating workplace well-being programmes, often from ground zero. In small organisations, well-being figureheads are crucial to the emergence and evolution of well-being programmes.

Early observations suggest a form of decoupling (means - ends) is adopted at the large organisations, as they seek legitimacy gains from various external stakeholders. Efforts to secure legitimacy can be made at corporate level via public statements and commitments regarding well-being policies, and filter down through the organisation where they are localised. Or in turn, they may originate at subsidiary or host country level, but they also capitalise on existing policies and practices to spearhead well-being programmes.

For a non-conventional view of these cases I see them on a spectrum. The aristocrats / vieux riche, who display an inherited nonchalance regarding the resources at their disposal. They do not crave attention. We also see the nouveau riche, who are recently enriched with HRM resources and oten seek attention, but only by comparison to others further down the hierarchy. Among the next set are the merchants, the middle class traders, busily growing family empires and who operate in a less formal way regarding HRM, they strive for the success displayed by those above, yet they lack the bureaucratic apparatus that such success requires. They are too busy to seek attention. Finally, we see the artisans. They are the talented craftmasters of HRM who serve a broader mission. They are gifted, with skills honed from many years of craft, yet they are guided by a moral obligation. Seeking attention is uncouth. Workplace well-being programmes are emerging and evolving over time in each of these archetypal organisations. Those who work for well-being and they are the real stars of this drama. For it appears that without these key actors, there would be little to see, under the well-being umbrella.

Assessment of hand-arm vibration syndrome in Polish workers

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The aim of this study was to analyse the usefulness of combined testing methods in diagnosing the early stage of vascular-nervous form of vibration syndrome in a group of people exposed at work to vibrations transmitted through the upper limbs. This would allow early detection of the disease and thus early prevention of further development of vibration syndrome. Forty men aged 25-45 years with at least 5 years of occupational exposure to hand-arm vibration participated in the study. The mean age of the subjects was 34.4±7.1 years. Total work experience in the study group ranged from 5 to 23 years, with an average of 10.6±5.9 years, and exposure to hand-arm vibration ranged from 5 to 18 years, with an average of 8.9±5.0 years. In addition, the control group consisted of 20 healthy men in the same age range, with a mean age of 34.6±6.9 years, who had never been exposed to upper limb vibration.

In both groups of subjects, 3 types of tests were performed to detect changes characteristic of the vascular-nervous form of vibration syndrome: vibration sensory testing by palesthesiometry to evaluate neural changes, and hand cooling test with skin thermometry and photoplethysmography to evaluate vascular changes. Almost half of the vibration-exposed subjects reported symptoms characteristic of those working with vibrating tools, but palesthesiometry revealed vibration sensory disturbances in only 20% of subjects. The mean vibration sensation score in the vibration-exposed and control groups was not statistically significantly different. On the other hand, the cooling test with skin thermometry showed abnormalities in the return of skin temperature of the fingers to baseline values after the cold stimulus in the case of almost 40% of people working in the vibration exposure, but also in this case, the results in the group of people exposed to vibrations and in the control group were not statistically significant. Statistically significant results between the study groups were obtained after photoplethysmography. Both the pulse wave amplitude (baseline and after hand cooling) and the magnitude of pulse wave amplitude reduction from baseline values after the cold stimulus were statistically significantly different between subjects exposed to vibration and controls. The results of the photoplethysmographic study may indicate worse basal blood supply to the skin of the fingers as well as peripheral vascular hyperreactivity in response to cold stimulation in the group of subjects exposed to hand-arm vibration compared to the control group.

Based on the laboratory studies performed, it can be concluded that even in individuals reporting symptoms of vibration syndrome, the results of standard diagnostic tests such as palesthesiometry or cold challenge with skin thermometry may be normal, especially in the early stages of the disease. The use of several testing methods simultaneously, including less common and less frequently used methods such as photoplethysmography, allows the identification of a larger number of individuals with disorders characteristic of the neurovascular form of vibration syndrome, who should undergo thorough diagnostic testing and be subjected to appropriate preventive measures.