The need for an expanded focus for OSH: Findings from Ex4OSH

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The world of work is undergoing profound changes.

Changes in the nature of work

Changes in the nature of work bring new and unknown workplace exposures and risks that may affect workers' health disproportionately.

Changes in the workforce

Changes in the workforce challenge traditional health and safety systems to ensure a safe and healthy workforce.

Changes in the types of workplaces

- More small businesses
    - Majority of businesses across all sectors in U.S.
    - Employ disproportionate number of workers in high risk sectors
- More telecommuting and remote work
- New work conditions
- New work plans
- New work contracts
- The COVID-19 pandemic has accelerated the pace of many of these changes, many of which are likely to become permanent.
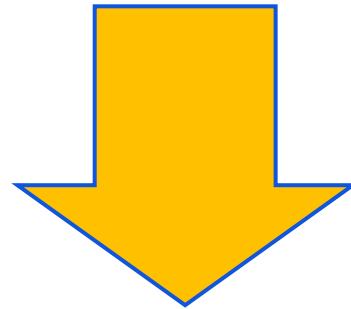
The workplace is and will be a mosaic of hazards

- Changes in work, the workforce, and the workplace bring new hazards and risks

- While we still face older deadly hazards and risks

- Climate-related effects could be significant

Transition

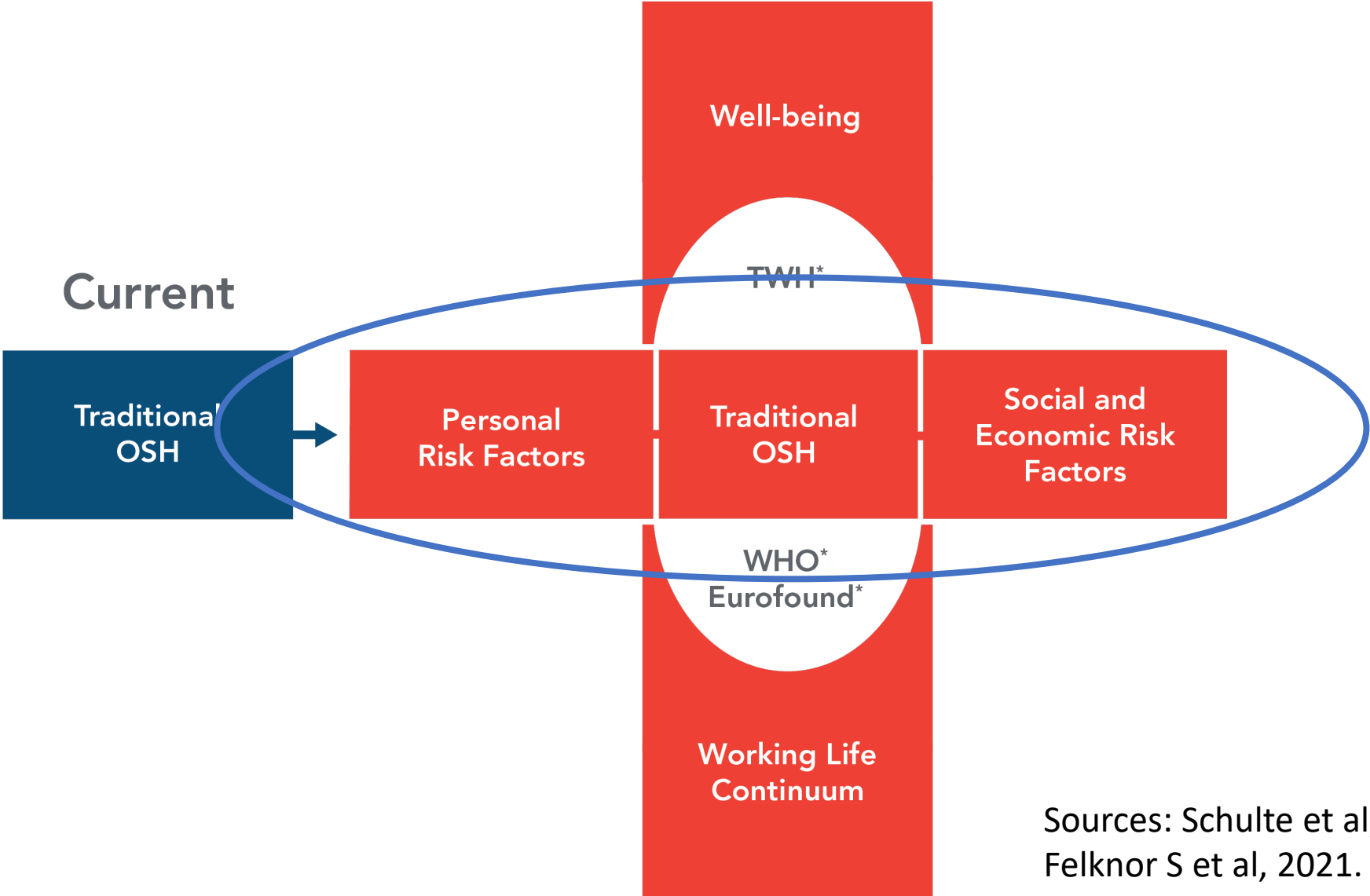Traditional OSH approach recognizing hazards and eliminating associated risks

Comprehensive view of the burden of work and work-related adverse effects

Comprehensive view of work-related burden

- Multiple domains of burden
  - Individual worker – workers' family – community – employer – society
- Broader view of work-relatedness of disease and injury
  - *Occupational* injury and illness
  - *Work-Related* injury and illness
- Impact over the entire working life continuum
  - Considers occupational and work-related burden over a lifetime including periods of unemployment
- Concept of **well-being** as a more comprehensive indicator
  - Challenge of lack of consensus of how to define and apply

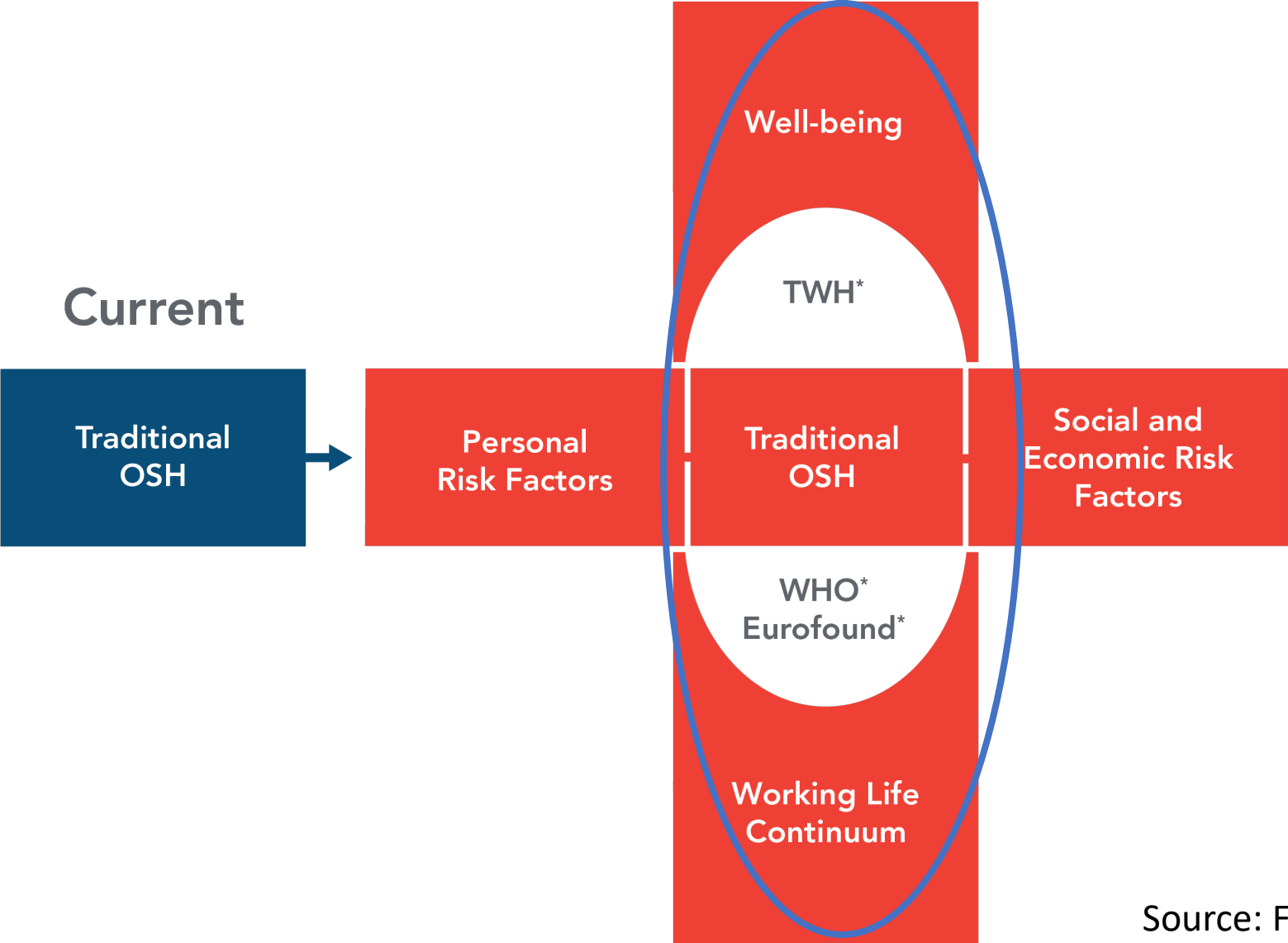# Horizontal and Vertical Expansion

Well-being

TWH*

Current

Traditional OSH → Personal Risk Factors | Traditional OSH | Social and Economic Risk Factors

WHO*
Eurofound*

Working Life Continuum

Sources: Schulte et al, 2019;
Felknor S et al, 2021.

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Broader view of the role and impact of work

- Many of the most prevalent and significant health conditions in workers not caused solely by workplace hazards
  - Examples include stress-related conditions, cardiovascular, psychological, and musculoskeletal disorders, obesity, depression, substance abuse, and violence
- Separation of "work" and "non-work" is in some ways artificial
  - Due to labor or employment contract
  - Compartmentalization leads to under-reporting
  - Increasingly porous boundaries between work and home
- Need for broader consideration of interaction of work and non-work factors

Horizontal and Vertical Expansion

Current

Traditional OSH

Well-being

TWH*

Personal Risk Factors

Traditional OSH

Social and Economic Risk Factors

WHO*
Eurofound*

Working Life Continuum

Source: Felknor S et al, 2021.

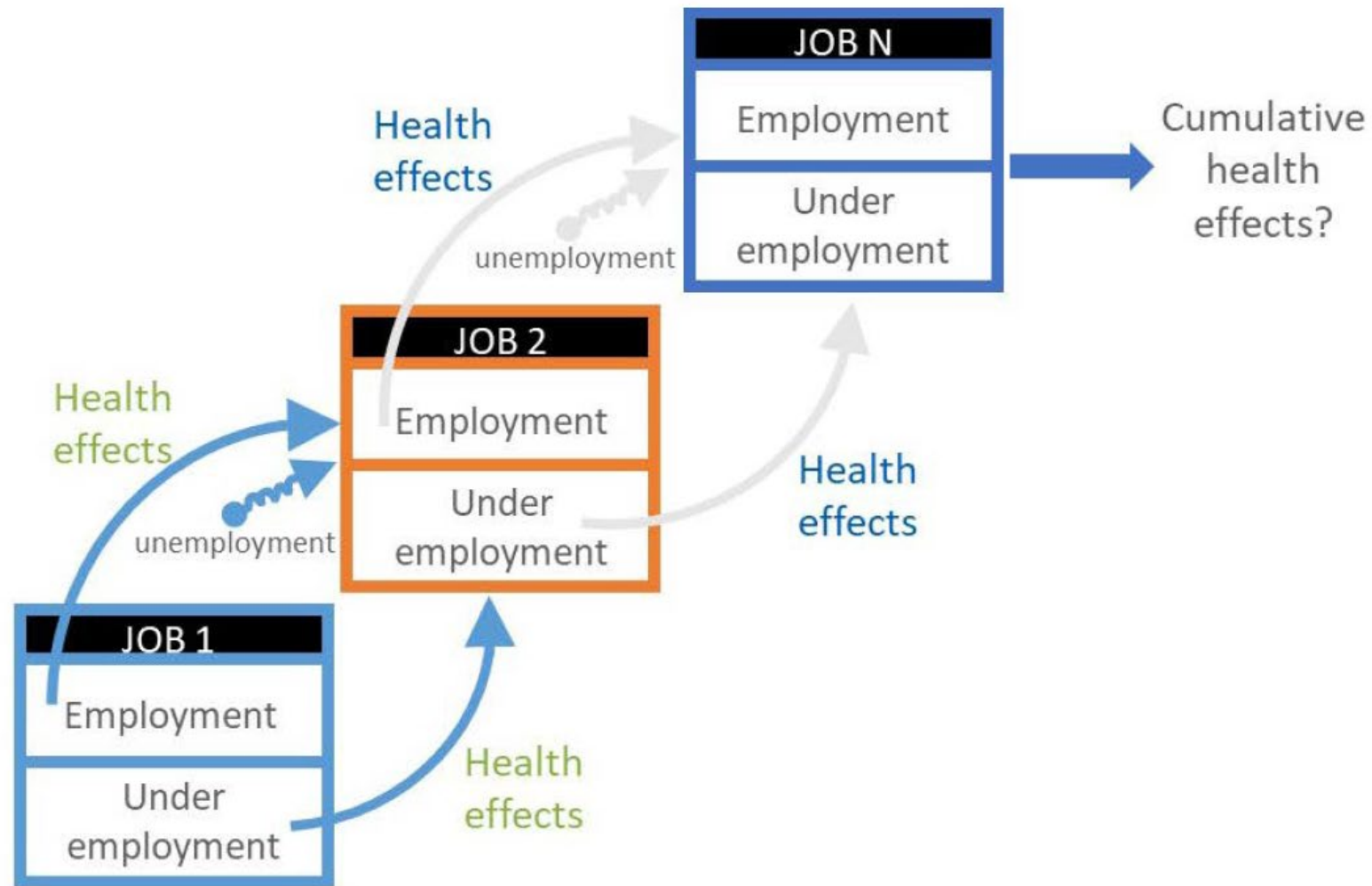# The working life continuum and dynamic nature of work

Figure 2. Model of health burden along the working-life continuum [11].

Worker Well-Being

Integrative concept that characterizes quality of life with respect to health and work-related environmental, organizational, and psychosocial factors.

Five domains:
- workplace physical environment and safety climate;
- workplace policies and culture;
- health status;
- work evaluation and experience; and
- home, community, and society.

[Chari et al 2018]
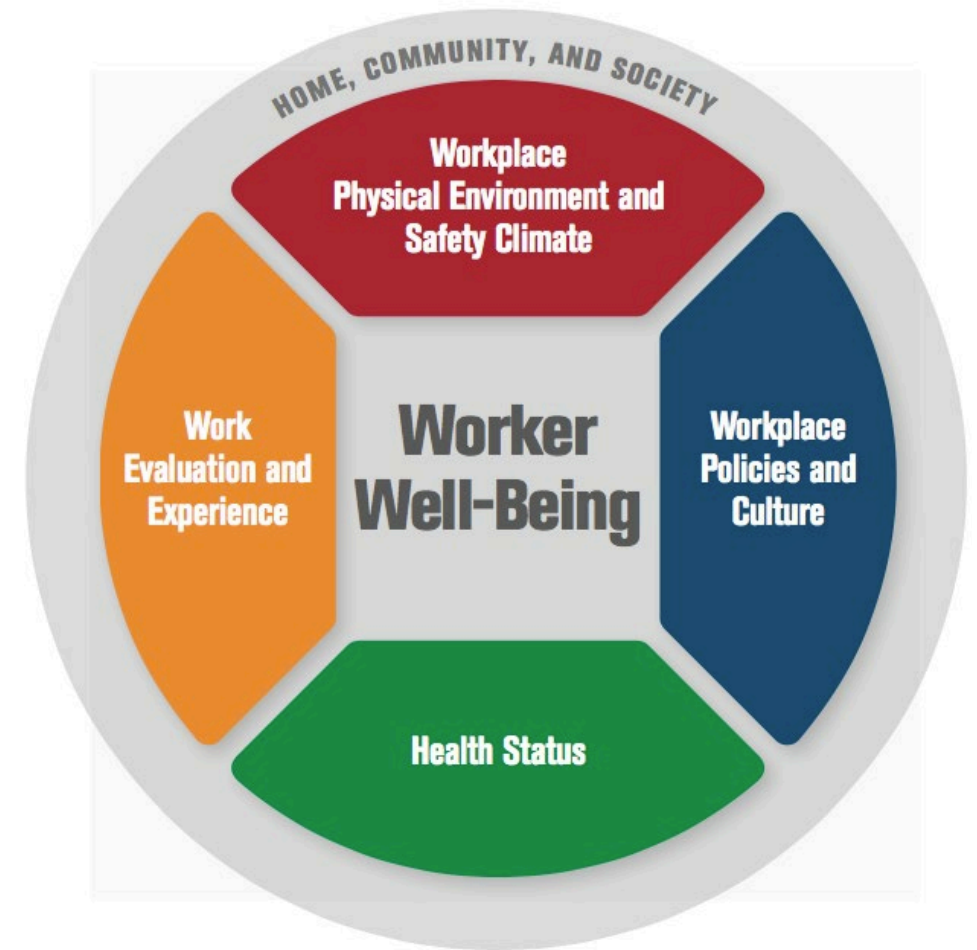
Well-Being is linked to

- Lower healthcare costs

- Reduced injury

- Reduced illness

- Lower ratio of absenteeism and presenteeism

- Worker, enterprise, and national productivity

Total Worker Health®

Keep Workers Safe

Establish workplace policies, practices and programs that grow health

Create Worker Well-being

A paradigm shift is needed to an expanded focus for occupational safety and health.

Broader view of burden vertically and horizontally

This expanded focus will require new skills and competencies for the
OSH professions.

U13 Cooperative Agreement:
"Shaping the future to ensure worker health and well-being: shifting paradigms for research, training, and policy"
2019-2022

- CDC/NIOSH and UTHealth SWCOEH
- Theme: paradigm shift (expanded focus) for OSH
- Activities: workshops, conferences and other dissemination activities
- Audience: broad, interprofessional, going beyond employers, workers and the academic community
- Focused on the three critical areas of research, training and policy/application

International Journal of
*Environmental Research
and Public Health*

MDPI

Review

Toward an Expanded Focus for Occupational Safety and Health: A Commentary

Paul A. Schulte [1],*, George Delclos [2] 📀 **, Sarah A. Felknor [1] and L. Casey Chosewood [1]**

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Original Article

Potential Scenarios and Hazards in the Work of the Future: A Systematic Review of the Peer-Reviewed and Gray Literatures

Paul A. Schulte[1,*], Jessica M.K. Streit[1], Fatima Sheriff[2], George Delclos[2], Sarah A. Felknor[3], Sara L. Tamers[4], Sherry Fendinger[1], James Grosch[1] and Robert Sala[5]

International Journal of
Environmental Research and Public Health

Review

How Will the Future of Work Shape the OSH Professional of the Future? A Workshop Summary

Sarah A. Felknor [1,*], Jessica M. K. Streit [2], L. Casey Chosewood [1], Michelle McDaniel [3], Paul A. Schulte [2], George L. Delclos [3] and on behalf of the Workshop Presenters and Participants [†]

February 3-4, 2020
Houston, Texas

Review

How Will the Future of Work Shape OSH Research and Practice? A Workshop Summary

Sarah A. Felknor [1,*], Jessica M. K. Streit [2] (iD), Michelle McDaniel [3], Paul A. Schulte [2], L. Casey Chosewood [1], George L. Delclos [3] (iD) and on behalf of the Workshop Presenters and Participants [†]

June 2020
Virtual Gatherings

Preparatory workshop objectives

- Examine how the future of work will impact how we train the OSH professional workforce and conduct OSH research and policymaking;
- Identify gaps and needs in these areas; and
- Inform the agenda of a larger international conference, to be held in 2021.

Ex4OSH
DECEMBER
9-11, 2021

Expanding Occupational Safety and Health:
An International Conference

Ex4OSH Themes

Topics
- Worker inequalities
- Training new OSH professionals
- Future OSH research and practice
- Tools to measure well-being of workers
- Psychosocial hazards and adverse mental health effects
- Skilling, upskilling and improving job quality
- Climate change
- COVID-19 pandemic influences
- Strategic foresight

Ex4OSH
DECEMBER
9-11, 2021

Expanding Occupational Safety and Health:
An International Conference

Ex4OSH Themes

Cross-cutting
- Systems thinking
- Transdisciplinarity/interprofessionalism
- Operationalization of worker well-being

Ex4OSH Themes

Worker inequalities
- Disproportionate health impacts on vulnerable worker populations, accentuated during the pandemic
- Income gap inequality
- Nonstandard work arrangements
- Refocus on well-being and decent work
- Work as a social determinant of health goes beyond the workplace

Ex4OSH
DECEMBER 9-11, 2021
Expanding Occupational Safety and Health:
An International Conference

Ex4OSH Themes

Training new OSH professionals
- Holistic approach, reoriented to worker well-being
- Proactive in anticipating hazards related to the future of work
- Training in knowledge of systems science and transdisciplinary approaches to problem-solving
- Incorporation of new knowledge and skills without overburdening curriculum or abandoning traditional OSH hazards
- Support learner-centered skills and competency-building outside of formal academic programs
- Expand knowledge related to vulnerable populations, nonstandard work arrangements and informal work

Ex4OSH Themes

Future OSH research and practice

- Incorporate new stakeholders (greater transdisciplinarity)
- Explore alternatives to traditional RCT (e.g., participatory research, realistic evaluation, contribution and impact analyses)
- Identify evidence-based approaches that benefit workforce health and safety
- Balance between long-term and short-term studies leading to actions
- Greater integration of work, non-work-related and STEEP contextual factors
- Shift from a one-employer model to a working life continuum approach
- Examination of effects of work organization and employment arrangements on health and well-being

Ex4OSH Themes

Tools to measure well-being of workers
- Move from a biomedical to a biopsychosocial framework
- Define, measure and operationalize new concepts and variables (exposures and outcomes)
- Examples: Thriving from Work Questionnaire, NIOSH Worker Well-Being Questionnaire (WellBQ)

Ex4OSH

DECEMBER
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Ex4OSH Themes

Psychosocial hazards and adverse mental health effects
- Growing evidence base on psychosocial hazards/risks, future of work, and increasing rates of adverse mental health effects and attendant business costs
- Trends exacerbated during the COVID-19 pandemic
- Role of work organization, precarious employment, stress, exploitation, migration, irregular schedules, low decision latitude, lack of organizational commitment to safety, absence of a strong social contract
- In the context of socioeconomic, racial, and gender disparities
- Regulatory psychosocial risk assessment and prevention
- Psychosocial safety climate

Ex4OSH Themes

Skilling, upskilling and improving job quality
- Technological advances versus workers' ability to keep skills up
- Unforeseen new jobs in the future
- Affect both blue (job loss in skilled trades) and white collar (replacement by technology) workers
- Issues go beyond skills, and include job wages and job quality
- Some interventions exist (e.g., union construction model, built on peer-to-peer and apprenticeshps)

Ex4OSH Themes

Climate change
- Workers are among the firstto be adversely affected by climate change: more serious exposures, earlier appearance of health effects
- Hazards: increased ambient temperature; air pollution; UV radiation; extreme weather; vector-borne diseases; industrial transactions; emerging industries and changes in the built environment
- Deleterious effects occur by occupation and industry, but also together with social and economic inequities
- Must be included in curricula

Ex4OSH Themes

COVID-19 pandemic influences
- Accelerated anticipated future changes in nature of work and employment
- Differential effect on worker populations (deskless versus remote workers)
- All sectors affected by increased psychosocial risks, in the absence of comprehensive approaches to their prevention
- OSH must make the link between occupational health and public health evident
- Opportunity for TWH approaches: pushed employer to look beyond work and consider how they can help workers on broader issues.

Ex4OSH Themes

Strategic foresight

- Action-oriented planning discipline, evolved from futures studies and strategic management that creates well-informed future scenarios to help test current strategy and create transformative change.
- Complements traditional strategic planning
- Underutilized in OSH
- NIOSH Foresight Framework for OSH

Ex4OSH
DECEMBER 9-11, 2021
Expanding Occupational Safety and Health: An International Conference

Expanded focus for OSH: summary and next steps

- Protecting the workforce of the future requires a holistic view of the hazards they experience and their range of adverse effects

- Requires a supportive paradigm; the biopsychosocial model can serve as a foundation

- Worker well-being as an overarching OSH construct requires transitioning from a descriptive aspiration to a measurable variable in research or a goal, target, or indicator in policy and practice.

- Critical to workforce protection and worker well-being is a greater focus on mental health

- Practical, legal and social problems with the concept of well-being in OSH, but these challenges are not insurmountable.

- Data linking well-being with worker, enterprise, and national productivity are increasing.

Expanded focus for OSH: summary and next steps

- Incorporation of systems thinking, transdisciplinary, and foresight approaches into curricula.

- New training methods and approaches to meet the demands of an increasingly mobile and distributed workforce, as reliance on traditional OSH degree training gives way to more on rapid-readiness training.

- Future research and practice require a broader stakeholder view to support a more transdisciplinary approach that includes disciplines outside the traditional OSH paradigm to better understand work organization and employment models.

Thank you

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Health Science Center at Houston