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Journal articles marked with an asterisk indicate an IWH scientist or adjunct scientist is included in the list of authors.

***Dobson KG, Chien YC, Carnide N, Furlan AD, Smith PM, and Mustard CA. Uncovering mental health profiles of workers with a physically disabling injury or illness using the complete state mental health framework. *Journal of Occupational Rehabilitation*. 2024; [epub ahead of print].**

<https://doi.org/10.1007/s10926-024-10254-3> [open access]

Abstract: Background: Complete mental health encompasses both mental illness (MI) symptoms and positive mental health (PMH). Distinct profiles of MI and PMH have not been explored among injured workers. This study describes latent mental health profiles among workers with a disabling physical work injury/illness and identifies differences in sociodemographic and return-to-work factors, health correlates, and disability claim duration and cost between profiles. Methods: 1132 Ontario workers with a physical work-related injury/illness who received lost-time claim benefits were surveyed 18 months post-injury. MI was defined by the self-reported presence of a mood and/or anxiety disorder diagnosed by a healthcare professional pre- or post-injury. The Mental Health Continuum Short Form measured aspects of PMH. Claim information was obtained via administrative records. Latent profile analysis identified the unique number of MI and PMH profiles. Chi-Square and ANOVA tests compared sociodemographic, return-to-work, health, and claim outcomes between classes. Results: Four latent MI and three latent PMH classes were uncovered. Eighteen percent of participants exhibited high MI symptoms diagnosed pre- and post-injury and 14% exhibited languishing PMH. Classes with higher MI burden and languishing PMH were more likely to report financial concerns during their claim, pain interference, other health conditions, and opioid use. Claim duration and wage-replacement benefits were ~ 20 days longer and ~ \$2000 greater, respectively, among the highest MI and lowest PMH classes. Conclusions: Workers' compensation claimants exhibit both flourishing and languishing mental health profiles. The demographic, health, and return-to-work characteristics of latent classes

may help identify claimants who may benefit from additional psychological support when returning to work.

***Orchard C, Lin E, Rosella L, and Smith PM. Using a causal decomposition approach to estimate the contribution of employment to differences in mental health profiles between men and women. *SSM - Population Health*. 2024; 28:101718.**

<https://doi.org/10.1016/j.ssmph.2024.101718> [open access]

Abstract: Background: Mental health disorders are known to manifest differently in men and women, however our understanding of how gender interacts with mental health and well-being as a broader construct remains limited. Employment is a key determinant of mental health and there are historical differences in occupational roles among men and women that continue to influence working lives (Bonde, 2008; Cabezas-Rodríguez, Utzet, & Bacigalupe, 2021; Drolet, 2022; Gedikli, Miraglia, Connolly, Bryan, & Watson, 2023; Moyser, 2017; Niedhammer, Bertrais, & Witt, 2021; Stier & Yaish, 2014; Van der Doef & Maes, 1999). This study aims to explore differences in multidimensional mental health between men and women, and to quantify how these differences may change if women had the same employment characteristics as men. Methods: Working-age adults (25-64) were identified through a household survey in Ontario, Canada during 2012. We created multifaceted measures of employment to capture both employment and job quality, as well as multidimensional mental health profiles that capture mental health disorders and well-being using survey data. A causal decomposition approach with Monte Carlo simulation methods estimated the change in differences in mental health profiles between men and women, if women had the same employment characteristics as men. Results: Among 2458 eligible respondents, women were more likely to exhibit clinical mood disorders compared to men, with men more likely to exhibit absence of flourishing without a diagnosable disorder. Among those who were flourishing, women more often expressed at least some life stress compared to men. When women were assigned men's employment characteristics, which amounted to an increase in employment and higher quality employment, some of the gender differences in risk of clinical mood disorder decreased. However, differences between men and women in the remaining mental health profiles increased. Conclusions: This study provided an estimate of the contribution of employment to the observed differences in multidimensional mental health between men and women. This adds to the literature by including a broader range of mental health indicators than disorders alone, and by formalizing the causal framework used to study these relationships.

Arrandale VH, Berriault C, Song C, DeBono N, and Demers PA. Surveillance of asbestos related disease among workers enrolled in an exposure registry. *American Journal of Industrial Medicine*. 2024; 67(12):1077-1088.

<https://doi.org/10.1002/ajim.23668>

Abstract: Introduction: Contemporary asbestos exposure occurs during construction, remediation, and maintenance involving asbestos-containing materials (ACM), as compared to the historical exposure scenarios of asbestos mining and milling. The Ontario Asbestos Workers Register (AWR) was established in 1986 to track asbestos exposure among construction workers. This study reports on the risk of asbestos-related diseases (ARD) among workers in the AWR. Methods: AWR registrants were linked probabilistically with administrative health databases (1986-2019) to identify cases of ARD including both cancer and chronic respiratory disease. Follow-up began at AWR enrollment and continued prospectively. Incidence rates were compared to the general population using standardized

incidence ratios (SIRs). Associations between ACM exposure and ARD were estimated among AWR registrants using Poisson regression. Results: In total, 26,204 (81%) registrants were linked successfully. Common industries of employment were construction (62%), manufacturing (19%) and education (8%). Among men and women mesothelioma (M:SIR 6.83 [95% CI = 5.56-8.31]; W:SIR 19.2 [3.86-56.1]) and pulmonary fibrosis (M:SIR 14.1 [12.2-16.2]; W:SIR 9.25 [2.49-23.7]) rates were higher than the general population. Asbestosis risk was elevated among men (M:SIR 11.2 [9.59-13.1]). Workers with longer reported exposures (≥ 140 h) had increased rates of lung cancer (RR 1.34 [1.10-1.63]), mesothelioma (RR 2.83 [1.75-4.58]), asbestosis (RR 3.07 [2.12-4.43]), chronic obstructive pulmonary disease (RR 1.42 [1.29-1.57]), and pulmonary fibrosis (RR 1.88 [1.35-2.62]). Conclusion: Exposure to asbestos in construction and building maintenance continues to contribute to ARD incidence. Despite a Canadian ban on asbestos in new products, exposures to existing ACM will persist from construction activities. The AWR offers an opportunity for ongoing surveillance of resulting ARD in Ontario.

Boets I, Luyten S, Vandebroek S, and Godderis L. Success rate and predictors of return to work after implementation of a formal return-to-work trajectory: a retrospective cohort study. *Work*. 2024; 79(3):1147-1157.

<https://doi.org/10.3233/WOR-230412>

Abstract: Background: Long term sick leave (SL) is increasing in Europe, several countries have legislative initiatives to reduce long-term absenteeism. Objective: We evaluated the impact of a legally defined return-to-work (RTW) trajectory on the RTW of employees on sick leave in Belgium. Methods: This was a retrospective register-based cohort study of employees ($n = 1416$) who followed an RTW trajectory in 2017. We linked workers' data from a prevention service with social security data. By multinomial logistic regression, we analysed which characteristics predicted the RTW with the same or another employer. Results: One year after their RTW trajectory, 69.2% of the 1416 employees did not RTW; 10.7% returned to work with the same employer and 20.1% with a new employer. Duration of SL was an important predictor for the RTW with both the same employer and another employer. The odds of RTW were lower when the SL duration was > 6 months compared to < 6 months. Marital status, organization-size, and the occupational physician decision had a significant impact on the RTW with the same employer. Age and who initiated the RTW-trajectory were important predictors on the RTW with another employer. Conclusions: Overall, 30.8% of employees returned to work after their RTW trajectory. A one-size-fits-all approach is not recommended. A stepped approach with an early, informal start of the RTW process is advised. When employees or employers fail to initiate the RTW on their own, a legally defined RTW trajectory could be useful. In particular, RTW with another employer seemed a positive effect of the RTW-trajectory.

Bouliotis G, Underwood M, and Froud R. Predicting the time to get back to work using statistical models and machine learning approaches. *BMC Medical Research Methodology*. 2024; 24(1):295.

<https://doi.org/10.1186/s12874-024-02390-4> [open access]

Abstract: BACKGROUND: Whether machine learning approaches are superior to classical statistical models for survival analyses, especially in the case of lack of proportionality, is unknown. OBJECTIVES: To compare model performance and predictive accuracy of classic regressions and machine learning approaches using data from the Inspiring Families programme. METHODS: The Inspiring Families programme aims to support members of families with complex issues to return to work. We explored

predictors of time to return to work with proportional hazards (Semi-Parametric Cox in Stata) and (Flexible Parametric Parmar-Royston in Stata) against the Survival penalised regression with Elastic Net penalty (scikit-survival), (conditional) Survival Forest algorithm (pySurvival), and (kernel) Survival Support Vector Machine (pySurvival). RESULTS: At baseline we obtained data on 61 binary variables from all 3161 participants. No model appeared superior, with a low predictive power (concordance index between 0.51 and 0.61). The median time for finding the first job was about 254 days. The top five contributing variables were 'family issues and additional barriers', 'restriction of hours', 'available CV', 'self-employment considered' and 'education'. The Harrell's Concordance index was range from 0.60 (Cox model) to 0.71 (Random Survival Forest) suggesting a better fit for the machine learning approaches. However, the comparison for predicting median time on a selected scenario based showed only minor differences. CONCLUSION: Implementing a series of survival models with and without proportional hazards background provides a useful insight as well as better interpretation of the coefficients affected by non-linearities. However, that better fit does not translate to substantially higher predictive power and accuracy from using machine learning approaches. Further tuning of the machine learning algorithms may provide improved results

Guille C and Sen S. Burnout, depression, and diminished well-being among physicians. *New England Journal of Medicine*. 2024; 391(16):1519-1527.

<https://doi.org/10.1056/NEJMr2302878>

Hoque K, Bacon N, and Allen D. Do employers' equality certifications improve equality outcomes? An assessment of the United Kingdom's Two Ticks and Disability Confident schemes. *British Journal of Industrial Relations*. 2024; 62(4):734-759.

<https://doi.org/10.1111/bjir.12799> [open access]

Abstract: This article contributes to debates on equality, diversity and inclusion by exploring the efficacy of employers' equality certifications, focusing on the UK government's Two Ticks and Disability Confident certifications. In Study 1, using data on Two Ticks certification matched into the nationally representative Workplace Employment Relations Study 2011, we found the adoption of disability equality policies and practices, the prevalence of disabled people in the workforce and disabled people's experience of work were no better in Two Ticks than in non-Two Ticks workplaces. In Study 2, using Department for Work and Pensions data on Disability Confident certification matched into WorkL 2021–2023 data (the world's largest employee experience database), we found that the proportion of the workforce that is disabled is no higher in Disability Confident Level 1 'Committed' organisations and Level 3 'Leader' organisations than in non-Disability Confident organisations. While the proportion of the workforce that is disabled is higher in Disability Confident Level 2 'Employer' organisations than in non-Disability Confident organisations, just 22 per cent of Disability Confident organisations are at this level. Disabled people's experience of work was no better in Disability Confident than in non-Disability Confident organisations. Our findings therefore question the efficacy of these employers' equality certifications.

Hurenko O, Suchikova Y, Kravchenko N, Nesterenko M, and Petryk K. Employment of young people with disabilities: the potential of social partnership of universities, municipalities and the labor market of Ukraine. *Work*. 2024; 79(3):1407-1423.

<https://doi.org/10.3233/WOR-230351>

Abstract: BACKGROUND: This study analyzed the existing global experience of university and labor market partnerships concerning the employment of youth with disabilities. It was found that current cooperation models are implemented locally, in a fragmented manner, and are limited to interactions between universities and large enterprises. OBJECTIVE: The research aimed to explore the current state of meeting the needs of students with disabilities in terms of providing educational services and employment opportunities and to analyze the interaction between universities, municipalities, and the labor market to improve employment opportunities for young people with disabilities. METHODS: The study considered a survey of three target groups from different regions of Ukraine (105 students with disabilities, 321 university faculty members, and 102 enterprise managers) conducted to study the current state of needs satisfaction in providing educational services and employing people with disabilities. RESULTS: The findings indicated a lack of coordination among stakeholders, an absence of systematization, and organization in addressing the issue of improving the employment of youth with disabilities. The research enabled the identification of existing and desired connections between the subjects of social partnership. A social partnership model between universities, municipalities, and the labor market was developed to improve the employment of youth with disabilities. CONCLUSION: The study results are promising, as implementing the social partnership model will broadly impact society

Kleshinski CE, Wilson KS, Stevenson-Street JM, and Rosokha LM. Coping with work-nonwork stressors over time: a person-centered, multistudy integration of coping breadth and depth. *Journal of Applied Psychology*. 2024; 109(11):1765-1793.

<https://doi.org/10.1037/apl0001207>

Abstract: Coping is a dynamic response to stressors that employees encounter in their work and nonwork roles. Scholars have argued that it is not just whether employees cope with work-nonwork stressors-but how they cope-that matters. Indeed, prior research assumes that adaptive coping strategies-planning, prioritizing, positive reframing, seeking emotional and instrumental support-are universally beneficial, suggesting that sustaining high levels of these strategies is ideal. By returning to the roots of coping theory, we adopt a person-centered, dynamic approach using latent profile analysis and latent transition analysis across three multiwave studies (N = 1,370) to consider whether employees combine coping strategies and how remaining in or shifting between such combinations also matters. In a pilot study (N = 361), we explored profiles and their transitions during a time frame punctuated with macrolevel transitions that amplified employees' work-nonwork stressors (i.e., COVID-19), which revealed three profiles at Time 1 (comprehensive copers, emotion-focused copers, and individualistic copers) and a fourth profile at Time 2 (surviving copers). In Study 1 (N = 648), across all three time points, we replicated three profiles and found evidence for constrained copers instead of emotion-focused copers. In Study 2 (N = 361), across both time points, we replicated all four profiles from Study 1 and tested hypotheses regarding the profiles, their transition patterns, and implications of such patterns for work, well-being, and social functioning outcomes. Altogether, our work suggests that maintaining high-coping depth or increasing depth is generally beneficial, whereas

maintaining or increasing coping breadth is generally harmful. (PsycInfo Database Record (c) 2024 APA, all rights reserved)

McKeown S and Mir ZM. Considerations for conducting systematic reviews: a follow-up study to evaluate the performance of various automated methods for reference de-duplication. Research Synthesis Methods. 2024; 15(6):896-904.

<https://doi.org/10.1002/jrsm.1736>

Abstract: Searching multiple resources to locate eligible studies for research syntheses can result in hundreds to thousands of duplicate references that should be removed before the screening process for efficiency. Research investigating the performance of automated methods for deduplicating references via reference managers and systematic review software programs can become quickly outdated as new versions and programs become available. This follow-up study examined the performance of default de-duplication algorithms in EndNote 20, EndNote online classic, ProQuest RefWorks, Deduplicator, and Systematic Review Accelerator's new Deduplicator tool. On most accounts, systematic review software programs outperformed reference managers when deduplicating references. While cost and the need for institutional access may restrict researchers from being able to utilize some automated methods for deduplicating references, Systematic Review Accelerator's Deduplicator tool is free to use and demonstrated the highest accuracy and sensitivity, while also offering user-mediation of detected duplicates to improve specificity. Researchers conducting syntheses should take automated de-duplication performance, and methods for improving and optimizing their use, into consideration to help prevent the unintentional removal of eligible studies and potential introduction of bias to syntheses. Researchers should also be transparent about their de-duplication process to help readers critically appraise their synthesis methods, and to comply with the PRISMA-S extension for reporting literature searches in systematic reviews

Miyahara T, Nakajima Y, Naya A, Shimizu D, and Tanemura R. Cognitive and self-regulation skills for employment among people with brain injury: a comparison of employed and non-employed people using mixed analysis. Work. 2024; 79(3):1055-1068.

<https://doi.org/10.3233/WOR-230342>

Abstract: Background: Employment for people with brain injuries is challenging, and identifying the factors that can be improved by rehabilitation and establishing appropriate intervention methods are imperative. Objective: To examine whether differences in cognitive functions and self-regulation skills exist between employed and non-employed people with brain injuries. In addition, we explored the self-regulation skills characteristic of employed people by qualitatively comparing them to those of non-employed people. Methods: Using a mixed research method, demographic data, neuropsychological tests, self-efficacy, and self-regulation skills were compared between 38 people with brain injuries (16 employed and 22 unemployed) in the community. Subsequently, self-regulation skills were assessed by the Self-Regulation Skills Interview (SRSI), and participants' responses were qualitatively compared. Results: No significant differences were observed in demographic data and neuropsychological tests, but employed people showed significantly better SRSI scores than unemployed people ($p < 0.01$). The qualitative analysis of the SRSI showed that employed people recognised themselves as having more specific symptoms than unemployed people. For example, they recognised the behaviour 'when having more than one errand, forgetting it', whereas non-employed people only recognised the category 'failure of prospective memory'. Furthermore,

employed people reviewed their behaviour and developed ingenious coping strategies, such as 'looking back on appointments that have been made', 'writing down as soon as having a schedule', whereas unemployed people only exhibited categories such as 'writing schedules on the cell phone'. Conclusions: Self-regulation skills, such as recognising specific symptoms and developing relevant coping strategies, are effective for gaining employment.

Otto B, Newnam S, Weale V, and Oakman J. What is needed to address psychosocial hazards in road transport? Using implementation science to understand the gaps. *Applied Ergonomics*. 2025; 122:104398.

<https://doi.org/10.1016/j.apergo.2024.104398> [open access]

Abstract: Work-related psychosocial hazards have a significant influence on the development of musculoskeletal and mental health disorders (MSDs and MHDs). This study used behavioural change theory to guide understanding of barriers and enablers for leaders working in the Heavy Vehicle Road Transport industry, to address workplace psychosocial hazards. The findings will be used to inform design of a future intervention to support leaders to more effectively address these hazards. Principal results and major conclusions: A higher number of barriers than enablers were identified. The most prevalent barriers were inadequate knowledge and interpersonal skills, and environmental context and inadequate resources, and the most prevalent enabler was risk management. The findings extend previous evidence by providing more specific detail regarding requirements for addressing psychosocial hazards. Further, the findings identified there is a need to improve the capability, opportunity and motivation of leaders to enable them to more effectively address psychosocial hazards

Sabbath EL, Lovejoy M, Schneider DK, Diaz-Linhart Y, DeHorn G, and Peters SE. Engaging low-wage workers in health and well-being survey research: strategies from 5 occupational studies. *American Journal of Public Health*. 2024; e1-e8.

<https://doi.org/10.2105/AJPH.2024.307875>

Abstract: Without perspectives of low-wage workers in studies of worker health and well-being, researchers cannot comprehensively assess occupational health and health equity impacts of workplace exposures and interventions. Researchers and practitioners have noted particular challenges in engaging low-wage workers in worksite-based health survey research, yet little scholarship has described strategies for improving their engagement and response rates. To fill this gap, we present case examples from 5 occupational studies conducted between 2020 and 2024 in industries including health care, food service, and fulfillment centers. For each case, we describe how we identified barriers to worker engagement in surveys, explain specific strategies we used to address those barriers, and assess the effectiveness of these actions. Then, summarizing across case examples, we offer practical recommendations to researchers surveying low-wage populations, highlighting that high-touch recruitment, building trust with workers and managers, and obtaining manager support to take surveys during work time (for worksite-based studies) are critical for obtaining reliable, representative data. Our work contributes to broader discussions on improving survey response rates in vulnerable worker populations and aims to support future researchers undertaking similar efforts. (*Am J Public Health*. Published online ahead of print November 14, 2024:e1-e8. <https://doi.org/10.2105/AJPH.2024.307875>)

Stamm IK, Schurmann L, and Scheidgen K. Market dependence as a boundary construction for work solidarity with the solo self-employed. *Work, Employment and Society*. 2024; 38(6):1528-1548.

<https://doi.org/10.1177/09500170231206083> [open access]

Abstract: As more people work outside standard employment, the foundations of work solidarity are contested. How does work solidarity arise in atypical forms of work that are characterised by flexible, autonomous and self-dependent organisation, such as in solo self-employment? Drawing on a discursive approach to work solidarity, this article emphasises how market dependence can serve as a boundary construction to create work solidarity. Empirically, this study engages in a discourse analysis on Soforthilfe, a policy measure introduced by the German government to financially assist solo self-employed people during the Covid-19 lockdown. In this discourse, market dependence serves to identify this social group's need (social boundary) and to set out the corresponding policies for financial assistance (substantive boundary). Four solidarity norms – relief, equality, preservation and quasi-equivalence – support this boundary construction. The article contributes to the current discourse on work solidarity by identifying an additional boundary construction.

Steele B, Shastri P, Moses C, Tremblay E, Arcenal M, O'Campo P, et al. The mental health of staff at violence against women organizations during the COVID-19 pandemic: findings from a mixed-methods study of service providers in Canada's largest city. *Canadian Journal of Public Health*. 2024; 115(5):756-769.

<https://doi.org/10.17269/s41997-024-00904-7> [open access]

Abstract: Objectives: Staff at violence against women (VAW) organizations provide essential services for survivors of violence. The increase in VAW during the COVID-19 pandemic placed additional pressures on VAW staff. We investigated the impacts of the pandemic on the mental health of VAW staff in the Greater Toronto Area to inform recommendations for policy and practice. Methods: We conducted a community-based, mixed-methods study on the processes, experiences, and outcomes of adapting VAW programming during the pandemic using a sequential explanatory approach. Throughout 2021, we conducted a survey of direct support and leadership staff who worked on VAW services ("VAW staff") followed by semi-structured interviews with VAW staff purposively sampled from the survey. We descriptively analyzed quantitative survey data on the mental health of 127 VAW staff. We then applied thematic analysis to qualitative data from 18 interviews with VAW staff. We used the qualitative data to support interpretation and enrich the quantitative findings regarding staff mental health. Results: In the survey, 81% of leadership and 61% of direct support staff indicated that their work was more distressing during the pandemic. Participants reported moderate symptoms of vicarious trauma and mild symptoms of anxiety and depression. We generated three themes from the qualitative data to help explain these findings: (1) challenges related to changing work environments; (2) distress over not meeting client needs; and (3) difficulties in adapting self-care strategies in response to pandemic stressors. Conclusion: VAW organizations require increased resources and flexible funding to hire and retain more staff to respond to higher and more complex caseloads during public health emergencies. With more structural supports in place, VAW organizations could create more time and space to develop their trauma-informed organizational practices: for example, establishing a culture of connection and learning among staff virtually and in-person and facilitating a range of self-care opportunities.

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