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**\*Dobrowolski C, McGinley J, Fazzari M, Su J, Bingham KS, Anderson N, Ruttan L, Beaton DE, et al. Association of mycophenolate and azathioprine use with cognitive function in systemic lupus. *Rheumatology*. 2023; 62(5):1860-1869.**

<https://doi.org/10.1093/rheumatology/keac540>

Abstract: Objectives: Cognitive dysfunction (CD) is a common manifestation of SLE that can have detrimental consequences for those affected. To date, no treatments have been approved for SLE-CD. This study aims to assess the association of azathioprine (AZA) and mycophenolate (MMF) use with SLE-CD, given that these medications have demonstrated neuroprotective qualities in prior studies. Methods: Consecutive adult SLE patients presenting to a single healthcare center were considered for participation. The ACR neuropsychological battery for SLE was administered to consenting patients at 0, 6 and 12 months. Scores were compared with age- and sex-matched controls. Primary outcome was CD, defined as a z-score  $\leq -1.5$  in two or more cognitive domains. Mixed-effects logistic regression models were constructed to estimate the odds of CD with respect to AZA and MMF use. Results: A total of 300 participants representing 676 patient visits completed the study; 114 (38%) met criteria for CD at baseline. The cumulative AZA dose (g/kg) was associated with reduced odds of CD [odds ratio (OR) 0.76 (95% CI 0.58, 0.98),  $P = 0.04$ ]. Years of AZA treatment was also associated with reduced odds of CD [OR 0.72 (95% CI 0.54, 0.97),  $P = 0.03$ ]. MMF use was not associated with CD. Conclusion: AZA use was associated with

significantly lower odds of SLE-CD, while MMF use was not. Additional studies are warranted to further investigate the relationship of AZA and SLE-CD.

**Belanger-Gravel A, Janezic I, Desroches S, Paquette MC, Therrien F, Barnett T, et al. Examining public health practitioners' perceptions and use of behavioural sciences to design health promotion interventions. BMC Health Services Research. 2023; 23(1):493. <https://doi.org/10.1186/s12913-023-09455-y> [open access]**

**Abstract:** BACKGROUND: Behavioural sciences have been shown to support the development of more effective interventions aimed at promoting healthy lifestyles. However, the operationalization of this knowledge seems to be sub-optimal in public health. Effective knowledge transfer strategies are thus needed to optimize the use of knowledge from behavioural sciences in this field. To this end, the present study examined public health practitioners' perceptions and use of theories and frameworks from behavioural sciences to design health promotion interventions. METHODS: This study adopted an exploratory qualitative design. Semi-structured interviews were conducted among 27 public health practitioners from across Canada to explore current intervention development processes, the extent to which they integrate theory and framework from behavioural sciences, and their perceptions regarding the use of this knowledge to inform intervention design. Practitioners from the public sector or non-profit/private organizations who were involved in the development of interventions aimed at promoting physical activity, healthy eating, or other healthy lifestyle habits (e.g., not smoking) were eligible to participate. RESULTS: Public health practitioners generally agreed that behaviour change is an important goal of public health interventions. On the other hand, behavioural science theories and frameworks did not appear to be fully integrated in the design of public health interventions. The main reasons were (1) a perceived lack of fit with current professional roles and tasks; (2) a greater reliance on experiential-produced knowledge rather than academic knowledge (mainly for tailoring interventions to local setting characteristics); (3) the presence of a fragmented knowledge base; (4) the belief that theories and frameworks require too much time and resources to be operationalized; and (4) the belief that using behavioural sciences might undermine partnership building. CONCLUSIONS: This study provided valuable insights that may inform knowledge transfer strategies that could be optimally designed to support the integration of behavioural sciences theories and frameworks into public health practices

**Eisenberg-Guyot J, Finsaas MC, and Prins SJ. Dead labor: mortality inequities by class, gender, and race/ethnicity in the United States, 1986-2019. American Journal of Public Health. 2023; 113(6):637-646.**

<https://doi.org/10.2105/AJPH.2023.307227>

**Abstract:** Objectives. To estimate social class inequities in US mortality using a relational measure based on power over productive property and workers' labor. Methods. We used nationally representative 1986-2018 National Health Interview Survey data with mortality follow-up through December 31, 2019 (n = 911 850). First, using business-ownership,

occupational, and employment-status data, we classified respondents as incorporated business owners (IBOs), unincorporated business owners (UBOs), managers, workers, or not in the labor force (NLFs). Next, using inverse-probability-weighted survival curves, we estimated class mortality inequities overall, after subdividing workers by employment status and occupation, and by period, gender, race/ethnicity, and education. Results. UBOs, workers, and NLFs had, respectively, 6.3 (95% confidence interval [CI] = -8.1, -4.6), 6.6 (95% CI = -8.1, -5.0), and 19.4 (95% CI = -21.0, -17.7) per 100 lower 34-year survival rates than IBOs. Mortality risk was especially high for unemployed, blue-collar, and service workers. Inequities increased over time and were greater among male, racially minoritized, and less-educated respondents. Conclusions. We estimated considerable mortality inequities by class, gender, and race/ethnicity. We also estimated that class mortality inequities are increasing, threatening population health. Public Health Implications. Addressing class inequities likely requires structural, worker-empowering interventions. (Am J Public Health. 2023;113(6):637-646. <https://doi.org/10.2105/AJPH.2023.307227>).

### **Related Articles**

**Gaffney A, Himmelstein DU, McCormick D, and Woolhandler S. COVID-19 risk by workers' occupation and industry in the United States, 2020 - 2021. American Journal of Public Health. 2023; 113(6):647-656.**

<https://doi.org/10.2105/AJPH.2023.307249>

Abstract: Objectives. To assess the risk of COVID-19 by occupation and industry in the United States. Methods. Using the 2020-2021 National Health Interview Survey, we estimated the risk of having had a diagnosis of COVID-19 by workers' industry and occupation, with and without adjustment for confounders. We also examined COVID-19 period prevalence by the number of workers in a household. Results. Relative to workers in other industries and occupations, those in the industry "health care and social assistance" (adjusted prevalence ratio = 1.23; 95% confidence interval = 1.11, 1.37), or in the occupations "health practitioners and technical," "health care support," or "protective services" had elevated risks of COVID-19. However, compared with nonworkers, workers in 12 of 21 industries and 11 of 23 occupations (e.g., manufacturing, food preparation, and sales) were at elevated risk. COVID-19 prevalence rose with each additional worker in a household. Conclusions. Workers in several industries and occupations with public-facing roles and adults in households with multiple workers had elevated risk of COVID-19. Public Health Implications. Stronger workplace protections, paid sick leave, and better health care access might mitigate working families' risks from this and future pandemics. (Am J Public Health. 2023;113(6):647-656. <https://doi.org/10.2105/AJPH.2023.307249>).

**Hawkins D. The other side of the balance sheet: work as a fundamental determinant of health. American Journal of Public Health. 2023; 113(6):631-633.**

<https://doi.org/10.2105/AJPH.2023.307300>

**Krieger N, LeBlanc M, Waterman PD, Reisner SL, Testa C, and Chen JT. Decreasing survey response rates in the time of COVID-19: implications for analyses of population health and health inequities. American Journal of Public Health. 2023; 113(6):667-670.**

<https://doi.org/10.2105/AJPH.2023.307267>

**Abstract:** Objectives. To examine whether, and if so how, US national and state survey response rates changed after the onset of the COVID-19 pandemic. Methods. We compared the change in response rates between 2020 and 2019 of 6 (3 social and economic, 3 health focused) major US national surveys (2 with state response rates). Results. All the ongoing surveys except 1 reported relative decreases (~29%) in response rates. For example, the household response rate to the US Census American Community Survey decreased from 86.0% in 2019 to 71.2% in 2020, and the response rate of the US National Health Interview Survey decreased from 60.0% to 42.7% from the first to the second quarter of 2020. For all surveys, the greatest decreases in response rates occurred among persons with lower income and lower education. Conclusions. Socially patterned decreases in response rates pose serious challenges and must be addressed explicitly in all studies relying on data obtained since the onset of the pandemic. Public Health Implications. Artifactual reduction of estimates of the magnitude of health inequities attributable to differential response rates could adversely affect efforts to reduce these inequities. (Am J Public Health. 2023;113(6):667-670. <https://doi.org/10.2105/AJPH.2023.307267>).

**Paul Leigh J. COVID-19 may have been job related for one fourth of diagnosed adults. American Journal of Public Health. 2023; 113(6):634-636.**

<https://doi.org/10.2105/AJPH.2023.307299>

**Morabia A. Bringing workers safety, health, and well-being front and center in public health. American Journal of Public Health. 2023; 113(6):597.**

<https://doi.org/10.2105/AJPH.2023.307304>

**Iacobucci E, McDonald NC, Naumann RB, and Kucera KL. Examining injury trends in parcel delivery drivers in the United States: challenges and opportunities. American Journal of Industrial Medicine. 2023; 66(6):441-453.**

<https://doi.org/10.1002/ajim.23473>

**Abstract:** INTRODUCTION: Growth of e-commerce has caused a vast increase in parcel delivery, which raises concern for safety of drivers and other road users as more deliveries take place. METHODS: This project analyzes injury/illness and fatality trends among workers

with delivery-related NAICS codes using three major sources of occupational hazard data in the United States: the Survey of Occupational Illnesses and Injuries, the Census of Fatal Occupational Injuries, and the Industrial Tracking Application. Descriptive statistics were employed to illustrate trends over time as well as to highlight opportunities for improved data collection and dissemination. RESULTS: The number of injuries to drivers has risen sharply over the past decade. Some of this increase appears due to growth of this industry, but increasing overall rates suggest the industry is becoming more hazardous. While nonfatal injuries were typically caused by continuous workplace exposures (e.g., repetitive strain, contact with object/equipment), fatalities were almost exclusively caused by transportation incidents. Additionally, crucial aspects of these trends are difficult or impossible to analyze given the current data landscape. CONCLUSIONS: Observed trends reinforce earlier calls for additional scrutiny of working conditions that threaten drivers. Injuries caused by transportation incidents are likely more severe than others and highlight the danger the transportation system poses to drivers and others. Current data collection and dissemination processes offer room to improve in terms of understanding how to prevent future injuries

**Kropman D, Appel-Meulenbroek R, Bergefurt L, and LeBlanc P. The business case for a healthy office; a holistic overview of relations between office workspace design and mental health. *Ergonomics*. 2023; 66(5):658-675.**

<https://doi.org/10.1080/00140139.2022.2108905>

Abstract: The role of the physical workspace in employee mental health is often overlooked. As a (mentally) healthy workforce is vital for an organisation's success, it is important to optimise office workspace conditions. Previous studies on the effects of the physical workspace on mental health tended to focus on the effects of a specific element of the physical workspace on one or only a few mental health indicators. This study takes a more holistic approach by addressing the relationship of physical workspace characteristics with ten broad indicators of work-related mental health. Results of a systematic review of empirical evidence show that many aspects of (day)light, office layout/design, and temperature and thermal comfort have been proven to be related to many mental health indicators. Less tacit workspace characteristics (e.g., noise, use of colours) have been explored too, but so far have only been related to a few mental health indicators. Practitioner summary: The absence of holistic insights regarding the empirical proof of the effects of workspace design on employee mental health prevents a clear business case for workplace investments. This paper presents a content analysis of existing studies and shows how seven elements of workspace design relate to 10 mental health indicators

**Martin-Roman AL, Moral A, and Pinillos-Franco S. Are women breaking the glass ceiling? A gendered analysis of the duration of sick leave in Spain. *International Journal of Health Economics and Management*. 2023; [epub ahead of print].**

<https://doi.org/10.1007/s10754-023-09351-2> [open access]

Abstract: We study the gender gap in the duration of sick leave in Spain by splitting this duration into two types of days - those which are related to biological characteristics and those derived from behavioral reasons. Using the Statistics of Accidents at Work for 2011-2019, we found that women presented longer standard durations (i.e., purely attached to physiological reasons) compared to men. However, when estimating individuals' efficiency as the ratio between actual and standard durations, we found that women were more inefficient at lower levels of income, whereas in case of men, this occurred at higher levels of income. These results were reinforced when considering that men and women do not recover from the same injury at the same rate. Women were more efficient than men across all the compensation distribution, especially at higher income levels

**Pasanen S, Halonen JI, Suorsa K, Leskinen T, Kestens Y, Thierry B, et al. Does work-related and commuting physical activity predict changes in physical activity and sedentary behavior during the transition to retirement? GPS and accelerometer study. *Health and Place*. 2023; 81:103025.**

<https://doi.org/10.1016/j.healthplace.2023.103025> [open access]

Abstract: We examined how GPS and accelerometer measured work-related and commuting physical activity contribute to changes in physical activity and sedentary behavior during the retirement transition in the Finnish Retirement and Aging study (n = 118). Lower work-related activity was associated with a decrease in sedentary time and an increase in light physical activity during retirement. Conversely, higher work-related activity was associated with an increase in sedentary time and a decrease in light physical activity, except among those active workers who also were active commuters. Thus, both work-related and commuting physical activity predict changes in physical activity and sedentary behavior when retiring.

**Singh A, Zeig-Owens R, Cannon M, Webber MP, Goldfarb DG, Daniels RD, et al. All-cause and cause-specific mortality in a cohort of WTC-exposed and non-WTC-exposed firefighters. *Occupational and Environmental Medicine*. 2023; 80(6):297-303.**

<https://doi.org/10.1136/oemed-2022-108703>

Abstract: Objective: To compare mortality rates in World Trade Center (WTC)-exposed Fire Department of the City of New York (FDNY) firefighters with rates in similarly healthy, non-WTC-exposed/non-FDNY firefighters, and compare mortality in each firefighter cohort with the general population. Methods: 10 786 male WTC-exposed FDNY firefighters and 8813 male non-WTC-exposed firefighters from other urban fire departments who were employed on 11 September 2001 were included in the analyses. Only WTC-exposed firefighters received health monitoring via the WTC Health Programme (WTCHP). Follow-up began 11 September 2001 and ended at the earlier of death date or 31 December 2016. Death data were obtained

from the National Death Index and demographics from the fire departments. We estimated standardised mortality ratios (SMRs) in each firefighter cohort versus US males using demographic-specific US mortality rates. Poisson regression models estimated relative rates (RRs) of all-cause and cause-specific mortality in WTC-exposed versus non-WTC-exposed firefighters, controlling for age and race. Results: Between 11 September 2001 and 31 December 2016, there were 261 deaths among WTC-exposed firefighters and 605 among non-WTC-exposed. Both cohorts had reduced all-cause mortality compared with US males (SMR (95% CI)=0.30 (0.26 to 0.34) and 0.60 (0.55 to 0.65) in WTC-exposed and non-WTC-exposed, respectively). WTC-exposed firefighters also had lower rates of all-cause mortality (RR=0.54, 95% CI=0.49 to 0.59) and cancer-specific, cardiovascular-specific and respiratory disease-specific mortality compared with non-WTC-exposed firefighters. Conclusion: Both firefighter cohorts had lower than expected all-cause mortality. Fifteen years post 11 September 2001, mortality was lower in WTC-exposed versus non-WTC-exposed firefighters. Lower mortality in the WTC-exposed suggests not just a healthy worker effect, but additional factors such as greater access to free health monitoring and treatment that they receive via the WTCHP.

**Takasaki H. Predictors of 1-year perceived recovery, absenteeism, and expenses due to low back pain in workers receiving mechanical diagnosis and therapy: a prospective cohort study. *Healthcare*. 2023; 11(9):1293.**

<https://doi.org/10.3390/healthcare11091293> [open access]

Abstract: This multicenter prospective cohort study aimed to preliminarily explore statistically relevant modifiable and predetermined factors for 1-year perceived recovery, absenteeism, and personal expenses in workers who received Mechanical Diagnosis and Therapy (MDT) for low back pain (LBP). Three stepwise multiple regression models were explored with 42 independent variables, including (1) socio-demographic factors; (2) risk stratification; (3) pain-related variables, psychological variables, and behavioral variables at baseline and changes after a month; (4) therapeutic alliance and exercise adherence at 1-month follow-up; and (5) MDT classification and therapist levels. Data from 58 participants were analyzed, after which a model with a medium effect size was developed for 1-year perceived recovery only. Consequently, patients with derangement syndrome were expected to have improved 1-year perceived recovery, with expected predetermined prognostic factors including shorter symptom duration, self-management skills to lead a healthy life, and less pain catastrophization at baseline. A stronger therapeutic alliance between patient and therapist during the 1-month MDT intervention was identified as an expected modifiable prognostic factor. It may be difficult to accurately predict the annual absenteeism and personal expenses due to LBP given the weak to low effect sizes of the developed models.

**Vieten L, Wohrmann AM, Wendsche J, and Michel A. Employees' work breaks and their physical and mental health: results from a representative German survey. *Applied Ergonomics*. 2023; 110:103998.**

<https://doi.org/10.1016/j.apergo.2023.103998> [open access]

Abstract: This study aimed to investigate the prevalence of three characteristics of work break organization, namely skipping work breaks, interruptions of work breaks, and meal break duration, and their relationships with physical and mental health. We used data from the BAuA-Working Time Survey 2017, a representative workforce survey in Germany, and restricted the sample to 5979 full-time employees. Logistic regression analyses were conducted with in total five health complaints as dependent variables: back pain and low back pain, pain in the neck and shoulder region, general tiredness, faintness, or fatigue, physical exhaustion, and emotional exhaustion. Many employees often skipped their work breaks (29%) and experienced break interruptions (16%). Frequent skipping of work breaks was significantly positively, that is detrimentally, related to all five health complaints and frequent interruptions of work breaks also, except for neck and shoulder pain. Meal break duration was significantly negatively, that is beneficially, related to physical exhaustion

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