Layoffs and the Mental Health and Safety of Remaining Workers: A Quasi-Experimental Study of the U.S. Aluminum Industry

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Background Relatively few studies have examined the effects of layoffs on remaining workers, although the effects of layoffs and downsizing events may extend beyond those employees who lose their jobs.

Methods We examined the effects of layoffs on mental healthcare utilization and injury risk among workers at 30 U.S. plants between 2003 and 2013. We defined layoffs as reductions in the hourly workforce of 20% or more at each plant. Using a difference-in-differences approach, we compared the changes in outcomes during layoffs versus the same three-month period one year previously, accounting for secular trends with control plants.

Results Our study population included 15,502 workers and seven layoff events between 2003 and 2012. Layoffs were associated with decreases in reported injuries (−0.006, 95% CI −0.013, 0.001), and increased probability of outpatient visits (0.010, 95% CI 0.003, 0.017) and prescriptions (0.014, 95% CI −0.0006, 0.027) for mental health. Among men, injury risk decreased more substantially (−0.010, 95% CI −0.018, −0.001) and among women the increase in outpatient visits was more pronounced (0.017, 95% CI 0.003, 0.031). Most notably, the observed increase in prescription utilization appeared attributable primarily to increased frequency of opioid prescriptions (0.016, 95% CI 0.005–0.027).

Conclusion Our results indicate an association between layoffs and remaining workers’ mental health and safety. However, decreased injury may reflect changes in reporting practices, and changes in mental healthcare utilization may reflect changes in care-seeking. Future research on concordance of service utilization and underlying health and safety may yield valuable insight into the experiences employed workers in the wake of layoffs.

Military Veterans Pathways to Mental Health Support: The Need for New Solutions


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Military service can place personnel at a greater risk of developing mental health issues yet both serving personnel and military veterans are reluctant to seek help for mental health issues. Delay in seeking support for mental health distress can result in reduced quality of life as well as a worse treatment prognosis. This research aims to explore the barriers and facilitators to care for the UK veteran population, identifying the relationship between these factors and help seeking behaviour.

Association Between Workplace Bullying and Common Mental Disorders in Judiciary Brazilian Civil Servants from Southern Brazil

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Introduction Bullying has been described as a risk factor for mental disorders, however there is a lack of evidence on this subject in low- and middle-income countries. Therefore we aimed to evaluate the association between workplace bullying and common mental disorders in a sample of Judiciary Brazilian civil servants.

Methods Cross-sectional study with a sample of 1667 workers from the Brazilian Federal Judiciary in southern Brazil. The Negative Acts Questionnaire (NAQ-r) was used to measure bullying at work and the Self Report Questionnaire (SRQ-20) was used to evaluate Common Mental Disorders (CMD). Poisson regression was used to test associations of interest, controlling for confounders.

Results The overall prevalence of CMD was 33.5%. The prevalence of workplace bullying was 17.7%. In the crude analysis, exposure to bullying (at least one negative act in a weekly basis in the last six months) was associated with a 2.07-fold (CI 1.81–2.36, p<0.001) higher prevalence of CMD. After controlling for sociodemographic and occupational confounders, workers exposed to bullying presented a 1.51-fold (CI 1.31–1.73, p<0.001) higher prevalence of CMD.

Discussion Judiciary Brazilian civil servants may be at a high risk of being exposed to bullying and having common mental disorders. Our findings corroborate the results of studies from high-income countries, where bullying is considered an
important occupational determinant of mental health. Prevention policies to eliminate bullying in organizations are urgent, what may help to decrease the prevalence of mental disorders among workers.

**Shiftwork**

**O4A.1 NIGHT SHIFTWORK, DNA METHYLATION, AND TELOMERE LENGTH IN FEMALE NURSES**

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**Introduction** Studies on female nurses have reported a higher breast cancer risk among night shift (NS) workers, without a clear understanding of the underlying biological mechanisms.

**Aim** To assess the association between night shiftwork and molecular alterations potentially related to a higher carcinogenic risk, in details: DNA methylation of estrogen receptor (ER-Alpha, ER-Beta) and tumor suppressor (BRCA1, BRCA2, p53, p16) genes, global DNA methylation estimated on repeated elements (LINE-1, Alu), and telomere length (TL).

**Methods** 46 female nurses who had been working in NS for at least two years in a Hospital in Milan, Italy, were matched by age (30–45 years) and length of service (at least 5 years) with 51 female colleagues not working in NS. Each subject was administered a structured questionnaire and withdrawn a 12 ml blood sample. We applied linear regression models adjusted for age, BMI, smoking habit, parity, and oral contraceptive use.

**Results** Currently working in NS (yes/no) was associated with hypomethylation of ER-Alpha (β: –1.635, 95% CI: –2.715; –0.534). When examining both current and former NS workers, the number of years (NY) in NS was associated with hypermethylation of Alu (β: 0.078, 95% CI: 0.016; 0.138). After graphical inspection of the association between NYNS and TL, we classified the study population according to NS duration (<15 vs. ≥15 years). Among workers with at least 15 years of NS, NYNS was associated with TL reduction (β: –0.065, 95% CI: –0.122; –0.008) and hypomethylation of ER-Alpha (β: –2.009, 95% CI: –3.164; –0.853). Association between NYNS and hypermethylation of p53, p16, BRCA1, BRCA2, and LINE-1 was much stronger, albeit not significant, in workers with at least 15 years of NS.

**Conclusions** Our findings show NS-associated epigenetic alterations that might be involved in processes such as cellular aging, genomic instability, and cancer development.

**O4A.2 JOINT EFFECTS OF NIGHT WORK AND SHIFT ROTATION ON TREATED DEPRESSION IN A LONGITUDINAL COHORT OF MANUFACTURING WORKERS**

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**Background** There is limited information on whether the prevalence of exposure to workplace carcinogens varies among shift workers and non-shift workers.

**Methods** This analysis used data from the Australian Work Exposures Study-Cancer, a telephone survey which examined exposure to carcinogens in the workplace. Workers were classified as shift workers if they indicated that their usual roster ever included work between the hours of midnight and 5 am. Modified Poisson regression was used to estimate the adjusted prevalence ratios (aPRs) and 95% confidence intervals (CIs).

**Results** Among the 5425 workers, 6.88% reported doing shift-work. Overall, shift workers were more likely to be exposed to any carcinogen (aPR=1.16; 95% CI: 1.06–1.26) and to multiple carcinogens (aPR=1.17; 95% CI: 1.06–1.30) than non-shift workers.