

Estimating the Fraction of Coronary Heart Disease Events Attributable to Psychosocial Stressors at Work : A Prospective Cohort Study

To stay connected

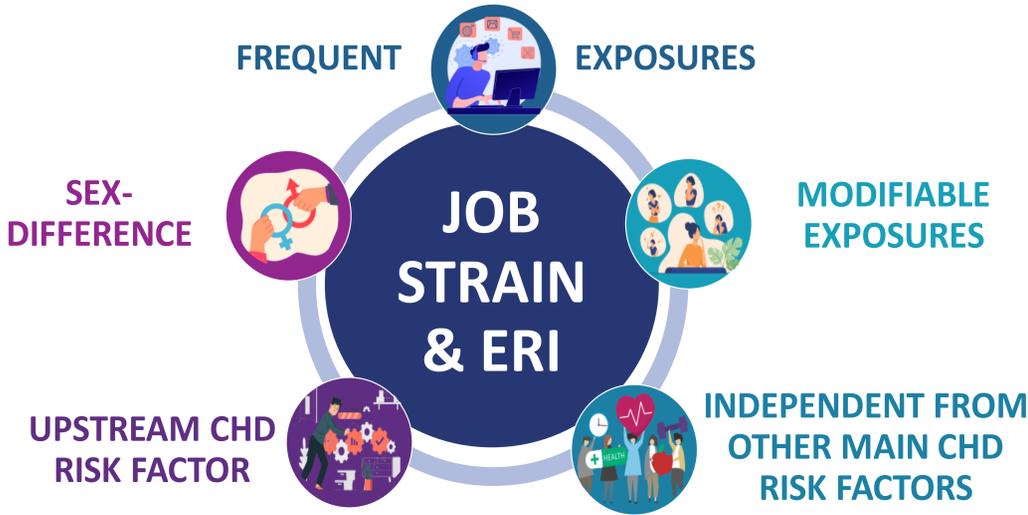


Mathilde.Lavigne-Robichaud.1@ULaval.ca

Mathilde Lavigne-Robichaud, Dt.P., MSc, PhD(c),
Dr Trudel, PhD, Dr Talbot, PhD, Dr Milot, MD & Dre Brisson, PhD

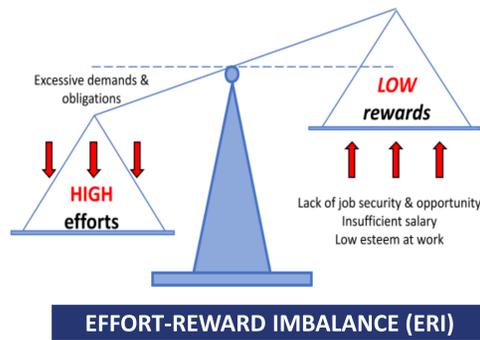


PSYCHOSOCIAL STRESSORS AT WORK WERE SHOWN TO INCREASE CORONARY HEART DISEASE (CHD) RISK¹

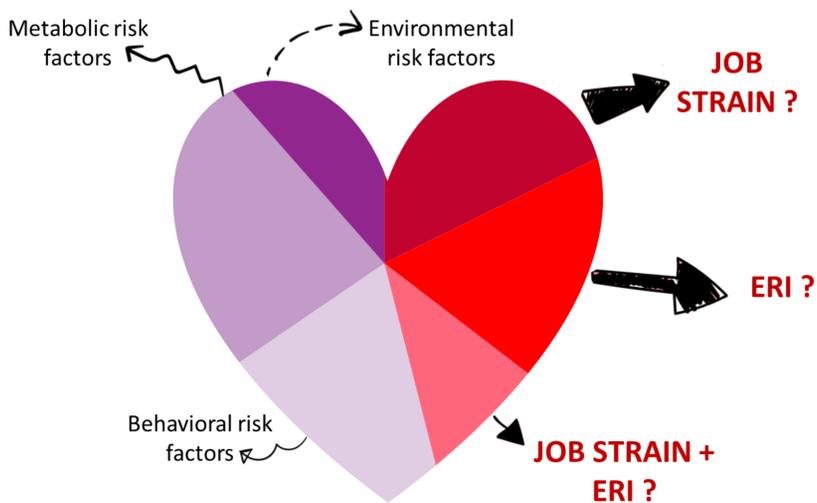


Job control median	Low job strain (Reference)	Active jobs	Job demands median
	Low job demands & High job control	High job demands & High job control	
	Passive jobs	High job strain	
	Low job demands & Low job control	High job demands & High job control	

JOB STRAIN

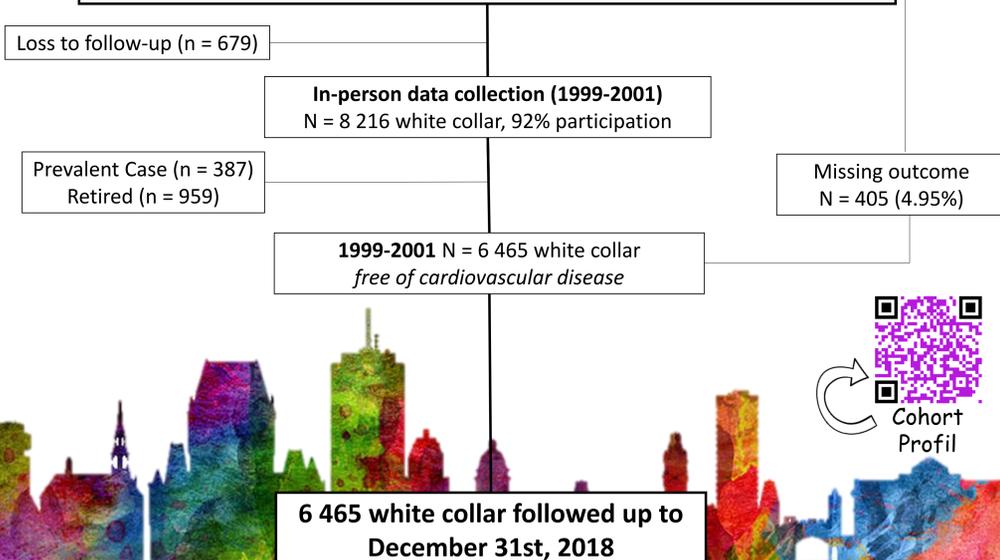


HOWEVER, THE PROPORTION OF CHD EVENTS ATTRIBUTABLE TO JOB STRAIN AND EFFORT-REWARD IMBALANCE, SEPARATELY AND IN COMBINATION, AMONG WOMEN AND MEN, HAS NEVER BEEN ESTIMATED

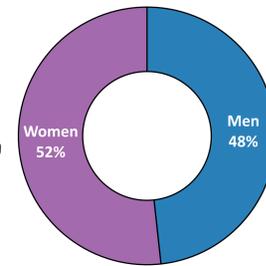


TO FILL THIS KNOWLEDGE GAP, WE HAD RECOURSE TO THE PROspective Quebec (PROQ) Study on Work and Health²

1991-1993 N = 8 895 white collar free of cardiovascular disease

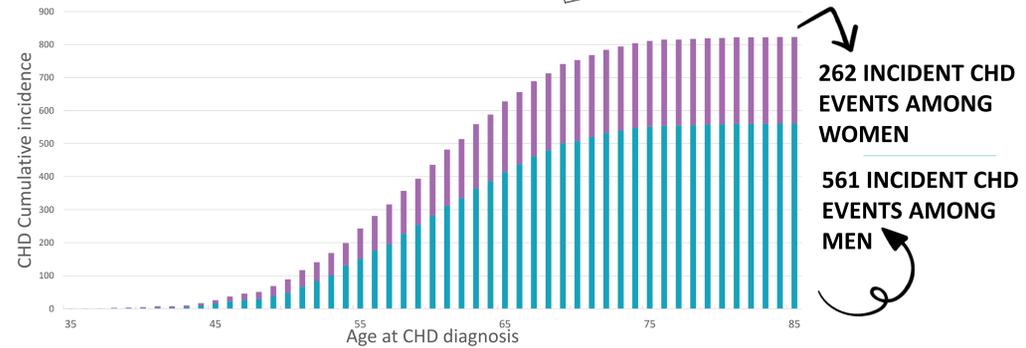


3,342 white collar women from the Quebec region were included

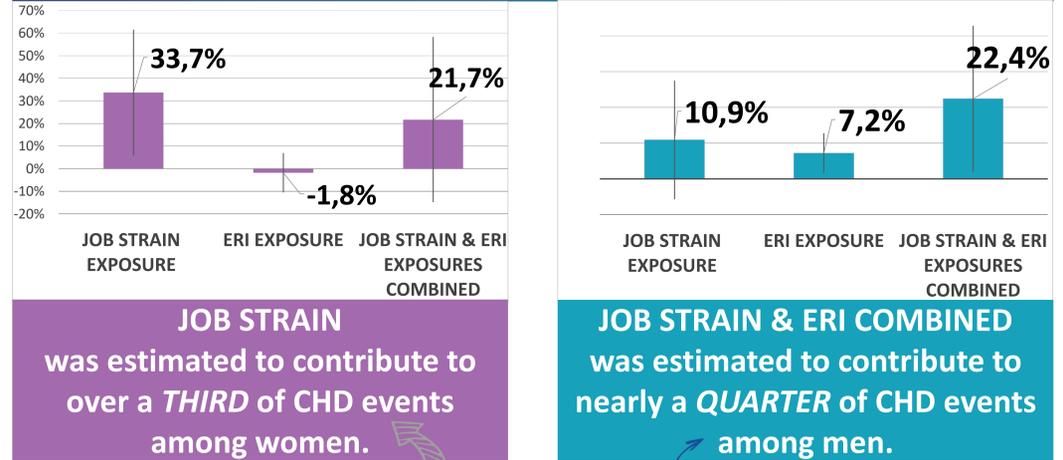


3,118 white collar men from the Quebec region were included

MEDICAL DATABASES WITH UNIVERSAL COVERAGE WERE USED TO VALIDLY IDENTIFY ALL INCIDENT CHD EVENTS³



WEIGHTED KAPLAN-MEIER'S WERE USED TO ESTIMATE THE PROPORTION OF INCIDENT CHD EVENTS ATTRIBUTABLE TO PSYCHOSOCIAL STRESSORS AT WORK⁴



Statistical methods accounted and corrected for :

- Participant's Selection
- Missing Data
- Main & Potential Confounders
- Reverse Causation & Induction Period

PSYCHOSOCIAL STRESSORS AT WORK ARE RELEVANT TARGET FOR CHD BURDEN REDUCTION



A large proportion of incident CHDs among women and men were *attributable* to psychosocial stressors at work

Our results add new evidence on the benefits for CHD prevention that could be expected from the reduction of psychosocial stressors at work

1. Sara, J. D., Prasad, M., Eleid, M. F., Zhang, M., Widmer, R. J., & Lerman, A. (2018). Association between Work-Related stress and coronary heart disease: a review of prospective studies through the job strain, Effort-Reward balance, and organizational justice models. *JAMA*, 7(9), 47(3), 693-699.

2. Trudel, X., Gilbert-Quimet, M., Milot, A., Duchaine, C. S., Vezeina, M., Laurin, D., ... & Collaborators Chastang Jean-François PhD Kline Rex PhD Lamarche Benoit PhD. (2018). Cohort profile: the prospective Québec (PROQ) study on work and health. *International journal of epidemiology*, 26(7), e225-e228.

3. Tu, K., Mirku, T., Lee, D. S., Guo, H., & Tu, J. V. (2010). Validation of physician billing and hospitalization data to identify patients with ischemic heart disease using data from the Electronic Medical Record Administrative data Linked Database (EMRALD). *Canadian Journal of Cardiology*, 26(7), e225-e228.

4. Talbot, D., Méziard, M., Tremou, K. C., Lavigne-Robichaud, M., Trudel, X., & Elami, A. (2022). Estimation of the attributable fraction for time to event outcomes using an inverse probability of exposure weighted Kaplan-Meier estimator. *arXiv preprint arXiv:2212.09538*.

5. Trudel, X., Gilbert-Quimet, M., Vezeina, M., Talbot, D., Mâsse, B., Milot, A., & Brisson, C. (2021). Effectiveness of a workplace intervention reducing psychosocial stressors at work on blood pressure and hypertension. *Occupational and environmental medicine*, 78(10), 738-744.

6. Duchaine, C. S., Aube, K., Gilbert-Quimet, M., Vezeina, M., Najaboue, R., Massamba, V., ... & Brisson, C. (2020). Psychosocial stressors at work and the risk of sickness absence due to a diagnosed mental disorder: a systematic review and meta-analysis. *JAMA psychiatry*, 77(8), 842-851.