Supplemental material

A cocktail fallacy in research with composite variables

Table S1: Job strain/ERI publications in SJWEH 2015-2022

Authors	Year	Title	Job strain	ERI	Composite variable models					Non-composite variable models			comment
					continuous ratio	binary ratio	binary	multifactor composite	quadrant	univariate model	additive model	full interaction model	
Tan EC, Pan KY, Magnusson Hanson LL, Fastbom J, Westerlund H, Wang HX.	2020	Psychosocial job strain and polypharmacy: a national cohort study	X						X				
Juvani A, Oksanen T, Virtanen M, Salo P, Pentti J, Kivimäki M, Vahtera J.	2018	Clustering of job strain, effort-reward imbalance, and organizational injustice and the risk of work disability: a cohort study	X	X		X	X	X					composite with job strain + ERI + justice
Theorell T	2017	On effort–reward imbalance and depression											editorial
Rugulies R, Aust B, Madsen IEH	2017	Effort–reward imbalance at work and risk of depressive disorders. A systematic review and meta-analysis of prospective cohort studies											Review/meta-analysis
Niedhammer I, Milner A, Geoffroy-Perez B, Coutrot T, LaMontagne AD, Chastang J-F	2020	Psychosocial work exposures of the job strain model and cardiovascular mortality in France: results from the STRESSJEM prospective study	X				X	X	X	X	X		

Rugulies R, Framke E, Sørensen JK, Svane-Petersen AC, Alexanderson K, Bonde JP, Farrants K, Flachs EM, Magnusson Hanson LL, Nyberg ST, Kivimäki M, Madsen IEH	2020	Persistent and changing job strain and risk of coronary heart disease. A population-based cohort study of 1.6 million employees in Denmark	X				X						
Magnusson Hanson LL, Madsen IEH, Rugulies R, Peristera P, Westerlund H, Descatha A	2017	Temporal relationships between job strain and low-back pain	X				X						cross-lagged SEM
by Halonen JI, Lallukka T, Virtanen M, Rod NH, Magnusson Hanson LL	2019	Bi-directional relation between effort–reward imbalance and risk of neck-shoulder pain: assessment of mediation through depressive symptoms using occupational longitudinal data		X		X							quartile cut-off
Åhlin JK, Peristera P, Westerlund H, Magnusson Hanson LL	2020	Psychosocial working characteristics before retirement and depressive symptoms across the retirement transition: a longitudinal latent class analysis	X	X		X	X			X			
Mortensen J, Dich N, Lange T, Alexanderson K, Goldberg M, Head J, Kivimäki M, Madsen IEH, Rugulies R, Vahtera J, Zins M, Rod NH	2017	Job strain and informal caregiving as predictors of long-term sickness absence: A longitudinal multi-cohort study	X										
Prakash KC, Neupane S, Leino-Arjas P, von Bonsdorff MB, Rantanen T, von Bonsdorff ME, Seitsamo J, Ilmarinen J, Nygård C-H	2017	Work-related biomechanical exposure and job strain in midlife separately and jointly predict disability after 28 years: a Finnish longitudinal study	X						X				
Mattsson K, Hougaard KS, Sejbaek CS	2021	Exposure to psychosocial work strain and changes in smoking behavior during pregnancy - a longitudinal study within the Danish National Birth Cohort	X						X				

Feldt T, Hyvönen K, Mäkikangas A, Rantanen J, Huhtala M, Kinnunen U	2016	Overcommitment as a predictor of effort–reward imbalance: evidence from an 8-year follow-up study		X	X									cross-lagged SEM
Li W, Yi G, Chen Z, Dai X, Wu J, Peng Y, Ruan W, Lu Z, Wang D	2021	Is job strain associated with a higher risk of type 2 diabetes mellitus? A systematic review and meta-analysis of prospective cohort studies												review and meta-analysis
Jood K, Karlsson N, Medin J, Pessah-Rasmussen H, Wester P, Ekberg K	2017	The psychosocial work environment is associated with risk of stroke at working age	X	X	X									Both job strain and ERI as ratio
Hulkkonen S, Shiri R, Auvinen J, Miettunen J, Karppinen J, Ryhänen J	2020	Risk factors of hospitalization for carpal tunnel syndrome among the general working population	-	-										not job strain or ERI
Niskanen R, Holstila A, Rahkonen O, Lallukka T	2017	Changes in working conditions and major weight gain among normal- and overweight midlife employees					X				X			binarised quadrant model
Niedhammer I, Bertrais S, Witt K	2021	Psychosocial work exposures and health outcomes: a meta-review of 72 literature reviews with meta-analysis												meta-meta study
Yung M, Evanoff BA, Buckner-Petty S, Roquelaure Y, Descatha A, Dale AM	2020	Applying two general population job exposure matrices to predict incident carpal tunnel syndrome: A cross-national approach to improve estimation of workplace physical exposures												not job strain or ERI
Sommer TD, Svendsen SW, Frost P	2016	Sickness absence and permanent work disability in relation to upper- and lower-body pain and occupational mechanical and psychosocial exposures	X				X	X						Binarised quadrant model + combined with pain
Choi B, Schnall P, Landsbergis P, Dobson M, Ko S, Gómez-Ortiz V, Juárez-Garcia A, Baker D	2015	Recommendations for individual participant data meta-analyses on work stressors and health outcomes: comments on IPD-Work Consortium papers												discussion paper

Jackson JA, Olsson D, Punnett L, Burdorf A, Järvholm B, Wahlström J	2019	Occupational biomechanical risk factors for surgically treated ulnar nerve entrapment in a prospective study of male construction workers												not job strain or eri
Hansen ML, Thulstrup AM, Juhl M, Kristensen JK, Ramlau-Hansen CH	2015	Occupational exposures and sick leave during pregnancy: results from a Danish cohort study	X						X					
Kivimäki M, Singh-Manoux A, Virtanen M, Ferrie JE, Batty GD, Rugulies R	2015	IPD-Work consortium: pre-defined meta-analyses of individual-participant data strengthen evidence base for a link between psychosocial factors and health												discussion paper
Lunau T, Wahrendorf M, Müller A, Wright B, Dragano N	2018	Do resources buffer the prospective association of psychosocial work stress with depression? Longitudinal evidence from ageing workers	X	X		X	X							
Oshio T, Tsutsumi A, Inoue A	2016	The association between job stress and leisure-time physical inactivity adjusted for individual attributes: evidence from a Japanese occupational cohort survey	X	X					X					both job strain and ERI as quadrants
Burdorf A, LaMontagne AD	2017	Analytical strategies to determine whether job strain is an important risk factor for occurrence of low-back pain												editorial
Juvani A, Oksanen T, Virtanen M, Elovainio M, Salo P, Pentti J, Kivimäki M, Vahtera J	2016	Organizational justice and disability pension from all-causes, depression and musculoskeletal diseases: A Finnish cohort study of public sector employees												not job strain or ERI
Burr H, Formazin M, Pohrt A	2016	Methodological and conceptual issues regarding occupational psychosocial coronary heart disease epidemiology												discussion paper
Ingre M	2015	Excuse me, but did the IPD-work consortium just "falsify" the job-strain model?												discussion paper
Wang A, Arah OA, Kauhanen J, Krause N	2016	Effects of leisure-time and occupational physical activities on 20-year incidence of												Not job strain or ERI

		acute myocardial infarction: mediation and interaction												
Total:			14	7	2	4	8	3	6		3	1	0	

Table S2: Studies screened in full text for meta-analyses of job strain and CHD

Article	Year		Included	Comment
Johnson, J V, E M Hall, and T Theorell. 1989. “Combined Effects of Job Strain and Social Isolation on Cardiovascular Disease Morbidity and Mortality in a Random Sample of the Swedish Male Working Population.” Scandinavian Journal of Work, Environment & Health 15 (4): 271–79.	1989		yes	
Reed, D M, A Z LaCroix, R A Karasek, D Miller, and C A MacLean. 1989. “Occupational Strain and the Incidence of Coronary Heart Disease.” American Journal of Epidemiology 129 (3): 495–502.	1989		no	Only indirect measures based on occupation
Siegrist, J, R Peter, A Junge, P Cremer, and D Seidel. 1990. “Low Status Control, High Effort at Work and Ischemic Heart Disease: Prospective Evidence from Blue-Collar Men.” Social Science & Medicine 31 (10): 1127–34.	1990		no	Not job strain
Alterman, T, R B Shekelle, S W Vernon, and K D Burau. 1994. “Decision Latitude, Psychologic Demand, Job Strain, and Coronary Heart Disease in the Western Electric Study.” American Journal of Epidemiology 139 (6): 620–27.	1994		yes	Only indirect measures of job strain based on occupation codes
Steenland, K, J Johnson, and S Nowlin. 1997. “A Follow-up Study of Job Strain and Heart Disease among Males in the NHANES1 Population.” American Journal of Industrial Medicine 31 (2): 256–60.	1997		no	Not job strain model (exposures inferred from job title only)
Bosma, H, R Peter, J Siegrist, and M Marmot. 1998. “Two Alternative Job Stress Models and the Risk of Coronary Heart Disease.” American Journal of Public Health 88 (1): 68–74.	1998		yes	Included as part of the IPD-work consortium meta-analysis
Kivimäki, Mika, Päivi Leino-Arjas, Ritva Luukkonen, Hilkka Riihimäki, Jussi Vahtera, and Juhani Kirjonen. 2002. “Work Stress and Risk of Cardiovascular Mortality: Prospective Cohort Study of Industrial Employees.” BMJ 325 (7369): 857.	2002		yes	
Kuper, H, A Singh-Manoux, J Siegrist, and M Marmot. 2002. “When Reciprocity Fails: Effort-Reward Imbalance in Relation to Coronary Heart Disease and Health Functioning within the Whitehall II Study.” Occupational and Environmental Medicine 59 (11): 777–84.	2002		yes	Included as part of the IPD-work consortium meta-analysis
Lee, Sunmin, Graham Colditz, Lisa Berkman, and Ichiro Kawachi. 2002. “A Prospective Study of Job Strain and Coronary Heart Disease in US Women.” International Journal of Epidemiology 31 (6): 1147–53; discussion 1154.	2002		yes	
Kuper, H, and M Marmot. 2003. “Job Strain, Job Demands, Decision Latitude, and Risk of Coronary Heart Disease within the Whitehall II Study.” Journal of Epidemiology and Community Health 57 (2): 147–53.	2003		yes	Included as part of the IPD-work consortium meta-analysis
Eaker, Elaine D, Lisa M Sullivan, Margaret Kelly-Hayes, Ralph B D’Agostino Sr, and Emelia J Benjamin. 2004. “Does Job Strain Increase the Risk for Coronary Heart Disease or Death in Men and Women? The Framingham Offspring Study.” American Journal of Epidemiology 159 (10): 950–58.	2004		yes	

De Bacquer, Dirk, E Pelfrene, E Clays, R Mak, M Moreau, P de Smet, M Kornitzer, and G De Backer. 2005. “Perceived Job Stress and Incidence of Coronary Events: 3-Year Follow-up of the Belgian Job Stress Project Cohort.” American Journal of Epidemiology 161 (5): 434–41.	2005		yes	Included as part of the IPD-work consortium meta-analysis
Kivimäki, Mika, Jane E Ferrie, Eric Brunner, Jenny Head, Martin J Shipley, Jussi Vahtera, and Michael G Marmot. 2005. “Justice at Work and Reduced Risk of Coronary Heart Disease among Employees: The Whitehall II Study.” Archives of Internal Medicine 165 (19): 2245–51.	2005		yes	Included as part of the IPD-work consortium meta-analysis
Malinauskiene, Vilija, Töres Theorell, Regina Grazuleviciene, Adele Azaraviciene, Vytautas Obelenis, and Vidmantas Azelis. 2005. “Psychosocial Factors at Work and Myocardial Infarction among Men in Kaunas, Lithuania.” Scandinavian Journal of Work, Environment & Health 31 (3): 218–23.	2005		no	Case-control study
Uchiyama, Shuji, Takashi Kurasawa, Toshihiro Sekizawa, and Hiroshi Nakatsuka. 2005. “Job Strain and Risk of Cardiovascular Events in Treated Hypertensive Japanese Workers: Hypertension Follow-up Group Study.” Journal of Occupational Health 47 (2): 102–11.	2005		no	Clinical groups
Demiral, Yucel, Ahmet Soysal, Ahmet Can Bilgin, Bulent Kiliç, Belgin Unal, Reyhan Uçku, and Tores Theorell. 2006. “The Association of Job Strain with Coronary Heart Disease and Metabolic Syndrome in Municipal Workers in Turkey.” Journal of Occupational Health 48 (5): 332–38.	2006		yes	
Elovainio, Marko, Päivi Leino-Arjas, Jussi Vahtera, and Mika Kivimäki. 2006. “Justice at Work and Cardiovascular Mortality: A Prospective Cohort Study.” Journal of Psychosomatic Research 61 (2): 271–74.	2006		no	Not job strain model (Justice at work)
Hemmingsson, Tomas, and Ingvar Lundberg. 2006. “Is the Association between Low Job Control and Coronary Heart Disease Confounded by Risk Factors Measured in Childhood and Adolescence among Swedish Males 40-53 Years of Age?” International Journal of Epidemiology 35 (3): 616–22.	2006		no	Not job strain model (only indirectly assessed job control)
Kopp, Maria, Arpád Skrabski, Zsuzsa Szántó, and Johannes Siegrist. 2006. “Psychosocial Determinants of Premature Cardiovascular Mortality Differences within Hungary.” Journal of Epidemiology and Community Health 60 (9): 782–88.	2006		no	Not job strain model (Aggregated mortality data)
Kornitzer, Marcel, Patrick deSmet, Susana Sans, Michele Dramaix, Charles Boulenguez, Guy DeBacker, Marco Ferrario, et al. 2006. “Job Stress and Major Coronary Events: Results from the Job Stress, Absenteeism and Coronary Heart Disease in Europe Study.” European Journal of Cardiovascular Prevention and Rehabilitation: Official Journal of the European Society of Cardiology, Working Groups on Epidemiology & Prevention and Cardiac Rehabilitation and Exercise Physiology 13 (5): 695–704.	2006		yes	Included as part of the IPD-work consortium meta-analysis
Kuper, Hannah, Hans-Olov Adami, Töres Theorell, and Elisabete Weiderpass. 2006. “Psychosocial Determinants of Coronary Heart Disease in Middle-Aged Women: A Prospective Study in Sweden.” American Journal of Epidemiology 164 (4): 349–57.	2006		yes	
Netterstrøm, Bo, Tage S Kristensen, and Anette Sjøl. 2006. “Psychological Job Demands Increase the Risk of Ischaemic Heart Disease: A 14-Year Cohort Study of Employed Danish Men.” European Journal of Cardiovascular Prevention and Rehabilitation: Official Journal of the European Society of Cardiology, Working Groups on Epidemiology & Prevention and Cardiac Rehabilitation and Exercise Physiology 13 (3): 414–20.	2006		yes	

Tsutsumi, Akizumi, Kazunori Kayaba, Kumi Hirokawa, Shizukiyo Ishikawa, and Jichi Medical School Cohort Study Group. 2006. “Psychosocial Job Characteristics and Risk of Mortality in a Japanese Community-Based Working Population: The Jichi Medical School Cohort Study.” Social Science & Medicine 63 (5): 1276–88.	2006		yes	
André-Petersson, Lena, Gunnar Engström, Bo Hedblad, Lars Janzon, and Maria Rosvall. 2007. “Social Support at Work and the Risk of Myocardial Infarction and Stroke in Women and Men.” Social Science & Medicine 64 (4): 830–41.	2007		yes	
Kivimäki, M, T Theorell, H Westerlund, J Vahtera, and L Alfredsson. 2008. “Job Strain and Ischaemic Disease: Does the Inclusion of Older Employees in the Cohort Dilute the Association? The WOLF Stockholm Study.” Journal of Epidemiology and Community Health 62 (4): 372–74.	2008		yes	Included as part of the IPD-work consortium meta-analysis
Yadegarfar, G, and R McNamee. 2008. “Shift Work, Confounding and Death from Ischaemic Heart Disease.” Occupational and Environmental Medicine 65 (3): 158–63.	2008		no	Not job strain model (Shiftwork and social class)
Bonde, Jens Peter, Torsten Munch-Hansen, Esben Agerbo, Poul Suadicani, Joanna Wieclaw, and Niels Westergaard-Nielsen. 2009. “Job Strain and Ischemic Heart Disease: A Prospective Study Using a New Approach for Exposure Assessment.” Journal of Occupational and Environmental Medicine / American College of Occupational and Environmental Medicine 51 (6): 732–38.	2009		yes	
Xu, Weixian, Yiming Zhao, Lijun Guo, Yanhong Guo, and Wei Gao. 2009. “Job Stress and Coronary Heart Disease: A Case-Control Study Using a Chinese Population.” Journal of Occupational Health 51 (2): 107–13.	2009		no	Clinical groups
Netterstrøm, Bo, Tage S Kristensen, Gorm Jensen, and Peter Schnor. 2010. “Is the Demand-Control Model Still a Usefull Tool to Assess Work-Related Psychosocial Risk for Ischemic Heart Disease? Results from 14 Year Follow up in the Copenhagen City Heart Study.” International Journal of Occupational Medicine and Environmental Health 23 (3): 217–24.	2010		yes	
Ha, Jaehyeok, Soo-Geun Kim, Domyung Paek, and Jungsun Park. 2011. “The Magnitude of Mortality from Ischemic Heart Disease Attributed to Occupational Factors in Korea - Attributable Fraction Estimation Using Meta-Analysis.” Safety and Health at Work 2 (1): 70–82.	2011		no	No empirical data (meta-study)
Xu, Weixian, Haiyi Yu, Wei Gao, Lijun Guo, Lin Zeng, and Yiming Zhao. 2011. “When Job Stress Threatens Chinese Workers: Combination of Job Stress Models Can Improve the Risk Estimation for Coronary Heart Disease--the BADCAR Study.” Journal of Occupational and Environmental Medicine / American College of Occupational and Environmental Medicine 53 (7): 771–75.	2011		no	Clinical groups
Kivimäki, Mika, Solja T Nyberg, G David Batty, Eleonor I Fransson, Katriina Heikkilä, Lars Alfredsson, Jakob B Bjorner, et al. 2012. “Job Strain as a Risk Factor for Coronary Heart Disease: A Collaborative Meta-Analysis of Individual Participant Data.” The Lancet 380 (9852): 1491–97.	2012		yes	
Lu, Yang, and Min Zhang. 2012. “[Cohort Study of Ischemic Heart Disease among 1817 Workers in a Foundry].” Wei Sheng Yan Jiu = Journal of Hygiene Research 41 (5): 824–30.	2012		no	Article in chinese but likely to not include job strain model
Mc Carthy, V J C, I J Perry, and B A Greiner. 2012. “Age, Job Characteristics and Coronary Health.” Occupational Medicine 62 (8): 613–19.	2012		no	Case-control study

Slopen, Natalie, Robert J Glynn, Julie E Buring, Tené T Lewis, David R Williams, and Michelle A Albert. 2012. “Job Strain, Job Insecurity, and Incident Cardiovascular Disease in the Women’s Health Study: Results from a 10-Year Prospective Study.” PloS One 7 (7): e40512.	2012		yes	
Selander, Jenny, Gösta Bluhm, Mats Nilsson, Johan Hallqvist, Töres Theorell, Pernilla Willix, and Göran Pershagen. 2013. “Joint Effects of Job Strain and Road-Traffic and Occupational Noise on Myocardial Infarction.” Scandinavian Journal of Work, Environment & Health 39 (2): 195–203.	2013		no	Case-control study
Cheng, Yawen, Chung-Li Du, Juey-Jen Hwang, I-Shin Chen, Ming-Fong Chen, and Ta-Chen Su. 2014. “Working Hours, Sleep Duration and the Risk of Acute Coronary Heart Disease: A Case-Control Study of Middle-Aged Men in Taiwan.” International Journal of Cardiology 171 (3): 419–22.	2014		no	Case-control study
Padyab, Mojgan, Yulia Blomstedt, and Margareta Norberg. 2014. “No Association Found between Cardiovascular Mortality, and Job Demands and Decision Latitude: Experience from the Västerbotten Intervention Programme in Sweden.” Social Science & Medicine 117 (September): 58–66.	2014		yes	
Szerencsi, Karolina, Ludovic van Amelsvoort, Martin Prins, and Ijmert Kant. 2014. “The Prospective Relationship between Work Stressors and Cardiovascular Disease, Using a Comprehensive Work Stressor Measure for Exposure Assessment.” International Archives of Occupational and Environmental Health 87 (2): 155–64.	2014		yes	
Torén, Kjell, Linus Schiöler, W K Giang, Masuma Novak, Mia Söderberg, and Annika Rosengren. 2014. “A Longitudinal General Population-Based Study of Job Strain and Risk for Coronary Heart Disease and Stroke in Swedish Men.” BMJ Open 4 (3): e004355.	2014		yes	
Kersten, Norbert, and Eva Backé. 2015. “Occupational Noise and Myocardial Infarction: Considerations on the Interrelation of Noise with Job Demands.” Noise & Health 17 (75): 116–22.	2015		no	Case-control study and indirect measure of job demand; not job strain
Schiöler, Linus, Mia Söderberg, Annika Rosengren, Bengt Järvholm, and Kjell Torén. 2015. “Psychosocial Work Environment and Risk of Ischemic Stroke and Coronary Heart Disease: A Prospective Longitudinal Study of 75 236 Construction Workers.” Scandinavian Journal of Work, Environment & Health 41 (3): 280–87.	2015		yes	
Orth-Gomér, K., Wamala, S. P., Horsten, M., Schenck-Gustafsson, K., Schneiderman, N., & Mittleman, M. A. (2000). Marital stress worsens prognosis in women with coronary heart disease: The Stockholm Female Coronary Risk Study. JAMA: The Journal of the American Medical Association, 284(23), 3008–3014.	2000		no	clinical group
Karasek, R., Baker, D., Marxer, F., Ahlbom, A., & Theorell, T. (1981). Job decision latitude, job demands, and cardiovascular disease: a prospective study of Swedish men. American Journal of Public Health, 71(7), 694–705.	1981		no	job strain only in case control study
Elovainio, M., Kivimäki, M., Linna, A., Brockner, J., van den Bos, K., Greenberg, J., Pentti, J., Virtanen, M., & Vahtera, J. (2010). Short report: Does organisational justice protect from sickness absence following a major life event? A Finnish public sector study. Journal of Epidemiology and Community Health, 64(5), 470–472.	2010		no	not job strain model
Toivanen, S., & Hemström, O. (2006). Income differences in cardiovascular disease: is the contribution from work similar in prevalence versus mortality outcomes? International Journal of Behavioral Medicine, 13(1), 89–100.	2006		no	only job control

Hublin, C., Partinen, M., Koskenvuo, K., Silventoinen, K., Koskenvuo, M., & Kaprio, J. (2010). Shift-work and cardiovascular disease: a population-based 22-year follow-up study. European Journal of Epidemiology, 25(5), 315–323.	2010		no	not job strain model, only shift work
Johnson, J. V., Stewart, W., Hall, E. M., Fredlund, P., & Theorell, T. (1996). Long-term psychosocial work environment and cardiovascular mortality among Swedish men. American Journal of Public Health, 86(3), 324–331.	1996		no	not job strain model, only job exposure matrix
Brunner, E. J., Kivimäki, M., Siegrist, J., Theorell, T., Luukkonen, R., Riihimäki, H., Vahtera, J., Kirjonen, J., & Leino-Arjas, P. (2004). Is the effect of work stress on cardiovascular mortality confounded by socioeconomic factors in the Valmet study? Journal of Epidemiology and Community Health, 58(12), 1019–1020.	2004		yes	composite job strain in three categories, no quadrant model
László, K. D., Ahnve, S., Hallqvist, J., Ahlbom, A., & Janszky, I. (2010). Job strain predicts recurrent events after a first acute myocardial infarction: the Stockholm Heart Epidemiology Program. Journal of Internal Medicine, 267(6), 599–611.	2010		no	clinical groups
László, K. D., Engström, K., Hallqvist, J., Ahlbom, A., & Janszky, I. (2013). Job insecurity and prognosis after myocardial infarction: the SHEEP Study. International Journal of Cardiology, 167(6), 2824–2830.	2013		no	clinical groups
Holtermann, A., Mortensen, O. S., Burr, H., Søgaard, K., Gyntelberg, F., & Suadicani, P. (2010). Long work hours and physical fitness: 30-year risk of ischaemic heart disease and all-cause mortality among middle-aged Caucasian men. Heart , 96(20), 1638–1644.	2010		no	not job strain model
Holtermann, A., Mortensen, O. S., Burr, H., Søgaard, K., Gyntelberg, F., & Suadicani, P. (2011). Physical fitness and perceived psychological pressure at work: 30-year ischemic heart disease and all-cause mortality in the Copenhagen Male Study. Journal of Occupational and Environmental Medicine / American College of Occupational and Environmental Medicine, 53(7), 743–750.	2011		no	not job strain model
Joensuu, M., Kivimäki, M., Koskinen, A., Kouvonen, A., Pulkki-Råback, L., Vahtera, J., Virtanen, M., & Väänänen, A. (2012). Differential associations of job control components with mortality: a cohort study, 1986-2005. American Journal of Epidemiology, 175(7), 609–619.	2012		no	not job strain model, only control
Joensuu, M., Kivimäki, M., Pentti, J., Virtanen, M., Väänänen, A., & Vahtera, J. (2014). Components of job control and mortality: the Finnish Public Sector Study. Occupational and Environmental Medicine, 71(8), 536–542.	2014		no	not job strain model, only control
Yong, M., Nasterlack, M., Messerer, P., Oberlinner, C., & Lang, S. (2014). A retrospective cohort study of shift work and	2014		no	not job strain model, shiftwork

risk of cancer-specific mortality in German male chemical workers. International Archives of Occupational and Environmental Health, 87(2), 175–183.				
Kivimäki, M., Vahtera, J., Virtanen, M., Elovainio, M., Pentti, J., & Ferrie, J. E. (2003). Temporary employment and risk of overall and cause-specific mortality. American Journal of Epidemiology, 158(7), 663–668.	2003		no	not job strain model
Jørgensen, J. T., Karlsen, S., Stayner, L., Hansen, J., & Andersen, Z. J. (2017). Shift work and overall and cause-specific mortality in the Danish nurse cohort. Scandinavian Journal of Work, Environment & Health, 43(2), 117–126.	2017		no	not job strain model
Gu, F., Han, J., Laden, F., Pan, A., Caporaso, N. E., Stampfer, M. J., Kawachi, I., Rexrode, K. M., Willett, W. C., Hankinson, S. E., Speizer, F. E., & Schernhammer, E. S. (2015). Total and cause-specific mortality of U.S. nurses working rotating night shifts. American Journal of Preventive Medicine, 48(3), 241–252.	2015		no	not job strain model
Karlsson, B., Alfredsson, L., Knutsson, A., Andersson, E., & Torén, K. (2005). Total mortality and cause-specific mortality of Swedish shift- and dayworkers in the pulp and paper industry in 1952-2001. Scandinavian Journal of Work, Environment & Health, 31(1), 30–35.	2005		no	not job strain model
Fujino, Y., Iso, H., Tamakoshi, A., Inaba, Y., Koizumi, A., Kubo, T., Yoshimura, T., & Japanese Collaborative Cohort Study Group. (2006). A prospective cohort study of shift work and risk of ischemic heart disease in Japanese male workers. American Journal of Epidemiology, 164(2), 128–135.	2006		no	not job strain model

Table S3: Summary of eligible studies on job strain and CHD

				Composite variable models			Non-composite variable models			
Cohort	*n* participants	*n* events	Outcome	Job strain	Iso-strain	Quadrant	Univariate	Additive	Full interaction	Note
Johnson1989	7219	407	CVD	-	x*	-	-	-	-	*Quintiles
Reed1989m	4737	359	CHDm+MI	x	-	x*	x*	-	-	*only partial info on quadrant
Alterman1994m	1606	283	CHDm	x	-	-	x*	-	-	*Tertiles
Kivimäki2002	812	73	CVDm	x		-	x*	-	-	*Tertiles
Lee2002f	35038	146	CHD	-	-	x	x*	-	-	*Tertiles
Eaker2004f	1328	31	CHD	-	-	x	x*	-	-	*Continuous
Eaker2004m	1711	118	CHD	-	-	x	x*	-	-	*Continuous
Demiral2006m	450	36	CHD	x	-	-	x	-	-	
Kuper2006f-full-time	19565	89	IHD	-	-	x	x*	-	-	*Tertiles
Kuper2006f-part-time	15972	55	IHD	-	-	x	x*	-	-	*Tertiles
Netterstrøm2006	659	47	IHD	-	-	x	-	x	-	
Tsutsumi2006	3178	35	CVDm	-	-	x	-	-	-	
André-Petersson2007m	3063	114	MI	-	x*	x	-	-	-	*Full Iso-strain model but without interaction terms
André-Petersson2007f	4707	38	MI	-	x*	x	-	-	-	*Full Iso-strain model but without interaction terms
Bonde2009	18258	101	IHD	x	-	-	x*	-	-	*Tertiles
Netterstrøm2010f	595	34	IHD	-	-	x	x	-	-	

Netterstrøm2010m	551	70	IHD	-	-	x	x	-	-	
Kivimäki2012	197473	2358	CHD	x	-	x	x*	-	-	*Quartiles+continuous
Slopen2012f	22086	170	MI	-	-	x	-	-	-	
Padyab2014m	36668	454	CVDm	-	-	x*	x	x*	-	Additive model adjusted for multiple factors, quadrant only age + sex
Padyab2014f	38320	141	CVDm	-	-	x*	x	x*	-	Additive model adjusted for multiple factors, quadrant only age + sex
Szerencsi2014	11489	309	CVD	x*	-	-	x	-	-	Combined with other stress indicators
Torén2014m	6070	1052	CHD	-	-	x	x	-	-	
Schiöler2015m	75236	1884	CHD	-	-	x	x*	-	-	*Quintiles
Brunner2004	815	73	CVDm	x*	-	-	-	-	-	*Tertiles