

**Department of Clinical Neuroscience**  
Division of Insurance Medicine**A twin study of factors associated with burnout**

Burnout research has mostly concerned work related factors as explanations for burnout, where a work environment with e.g. low social support, low control and role conflicts constitute risk factors for employees to burn out. As regards individual factors, young people in the beginning of their professional career with a high involvement in work seem to be most vulnerable. This initial engagement in the burnout process has been explained in terms of a contingent self-esteem where the individual continuously strive to earn self-esteem by doings and thereby risk driving her or himself to excessive work intensity. Genetic effects on burnout have only been investigated in two previous studies. With twin data, differences in similarity between identical and fraternal twins provide information about the presence of genetic and environmental effects on burnout. The general aim of the project is to investigate the importance of genetic and environmental factors for burnout in a nationwide, population-based twin sample from the Swedish twin registry born 1959-1986. Further aims are to study the associations between burnout and demographic, life-style, life-events, personality, health, sickness absence and work-related factors and control for familial influences. There is a need for further knowledge of what causes burnout and to identify people at risk for burnout as it has become a common reason for sickness absence, particularly in women. The project may contribute with increased understanding of explanations to burnout which can improve rehabilitation and prevention efforts with gains for the individual as well as for the society.

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**Collaboration**

We collaborate with researchers at Stockholm University/Stockholm Stress Center

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## Publications

**Thesis:** Mather, L. Burnout and sick leave due to mental disorders: heritability, comorbidity, risk factors and adverse outcomes. Karolinska Institutet. Thesis for doctoral degree (Ph.D.). E-print AB 2017.

### Peer-reviewed articles:

1. Wang M, Ropponen A, Narusyte J, Helgadóttir B, Bergström G, Blom V, Svedberg P. Adverse outcomes of chronic widespread pain and common mental disorders in individuals with sickness absence – a prospective study of Swedish twins. *BMC Public Health*. 2020 Aug 27;20(1):1301. doi: 10.1186/s12889-020-09407-9.
2. Svedberg P, Mather L, Bergström G, Lindfors P, Blom V. Time pressure and sleep problems due to thoughts about work as risk factors for future sickness absence. *International Archives Occupational Environmental Health*. 2018;91(8):1051-1059.
3. Svedberg P, Mather L, Bergström G, Lindfors P, Blom V. Work-home interference, perceived total workload and the risk of future sickness absence due to stress-related mental diagnoses among women and men: a prospective twin study. *International Journal of Behavioral Medicine*. 2018;25:103-111.
4. Blom V, Richter A, Hallsten L, Svedberg P. The associations between job insecurity, depressive symptoms and burnout: the role of performance-based self-esteem. *Economic and Industrial Democracy*. 2018;39(1):48-63.
5. Mather, L., Blom, V., Bergström, G., Svedberg, P. An underlying common factor explains the covariation between major depressive disorder, generalized anxiety disorder and burnout: a Swedish twin study. *Twin Research and Human Genetics*. 2016 Dec;19(6):619-627.
6. Svedberg P, Hallsten L, Narusyte J, Bodin L, Blom V. Genetic and environmental influences on the association between performance-based self-esteem and exhaustion: a study of the self-worth notion of burnout. *Scandinavian Journal of Psychology*. 2016; 57:419–426.
7. Blom V, Bodin L, Bergström G, Svedberg P. Applying the Demand-control-support model on burnout in managers and non-managers. *International Journal of Workplace Health Management*. 2016;9(1): 110-122.
8. Mather L, Bergström G, Blom V, Svedberg P. The covariation between burnout and sick leave due to mental disorders is explained by a shared genetic liability: a prospective Swedish twin study with a five-year follow-up. *Twin Research Human Genetics*. 2014; 17(6):535-544.
9. Mather L, Blom V, Svedberg P. Stressful and traumatic life-events are associated with burnout - a cross-sectional twin study. *International Journal of Behavioral Medicine*. 2014; 21(6): 899-907.
10. Blom V, Sverke M, Bodin L, Bergström G, Lindfors P, Svedberg P. Work-home interference and burnout: A study based on Swedish twins. *Journal of Occupational and Environmental Medicine*. 2014;56(4): 361-366.
11. Svedberg P, Blom V, Narusyte J, Bodin L, Bergström G, Hallsten L. Genetic and environmental influences on performance-based self-esteem in a population-based cohort of Swedish twins. *Self and Identity*. 2014;13(2), 243-256.
12. Blom V, Bodin L, Bergström G, Hallsten L, Svedberg P. The Importance of Genetic and Shared Environmental Factors for the Associations between Job Demands, Control, Support and Burnout. *PLoS ONE*. 2013;8(9): e75387.

13. Blom V, Bergström G, Hallsten L, Bodin L, Svedberg P. Genetic susceptibility to burnout in a Swedish twin cohort. *European Journal of Epidemiology*. 2012;27(3), 225-231.

#### **Conference proceedings/Abstracts**

1. Lindfors P, Svedberg P, Bergström G, Mather L, Blom V. Stress in paid and unpaid work as related to salivary cortisol measures and subjective health complaints in women working in the public sector. Dublin May 2017 European Association of Work and Organizational Psychology (EAWOP).
2. Blom V, Sverke M, Bodin L, Bergström G, Lindfors P, Svedberg P. Work-Home Interference and burnout: a study based on Swedish Twins. Invited symposia (organizer Petra Lindfors): Work Life Balance: addressing conflicts between different life domains. 17<sup>th</sup> congress of the European Association of Work and Organizational Psychology, May 20<sup>th</sup>-23<sup>rd</sup> 2015. Oslo, Norway.
3. Richter A, Blom V, Hallsten L, Svedberg P. Investigating the Association between Job Insecurity and Burnout: The Moderating and Mediating Role of Performance-Based Self-Esteem. European academy for occupational health psychology (EAOHP); London April 14, 2014.
4. Mather L, Bergström G, Blom V, Svedberg P. The importance of unhealthy behaviors and familial factors in the association between self-reported symptoms of burnout and stress-related sick-leave: a twin study. *European Journal of Public Health*, Vol.23. Suppl.1, page 132. EUPHA Brussels, Belgium, Nov 2013.
5. Richter A, Blom V, Hallsten L, Svedberg P. Job insecurity and Burnout. SSC Stockholm Stress Center Workshop AUG 29, 2013.
6. Blom V, Sverke M, Bodin L, Bergström G, Lindfors P, Svedberg P. Work-home interference and burnout in Swedish women and men: The importance of genetics and family environment. FALF: Forum för Arbetslivsforskning Stockholm 2013.
7. Blom V, Bodin L, Bergström G, Hallsten L, Svedberg P. The importance of genetic and shared environmental factors for the associations between job demands, control, support and burnout. 20th annual EUPHA meeting 2012, Malta.
8. Svedberg P, Blom V, Narusyte J, Bergström G, Bodin L, Hallsten L. Genetic and Environmental Factors of importance for contingent self-esteem among women and men. *Twin Research and Human Genetics*, 2012, Vol. 15, no. 12, p.241. The 14th International Congress on Twin Studies and The 2nd World Congress on Twin Pregnancy, Florence, Italy.
9. Blom V, Bergström G, Hallsten L, Bodin L, Svedberg P. The relative importance of genes and environment in burnout symptoms: a Swedish Twin cohort study. *Twin Research and Human Genetics*, 2012, Vol. 15, no. 12, p.178. The 14th International Congress on Twin Studies and The 2nd World Congress on Twin Pregnancy, Florence, Italy.

#### **Master thesis**

1. Mather L. The association between stressful and traumatic life events and burnout in a population of twins. Master thesis for Degree of Master of Medical Science with a Major in Public Health Sciences. May 2012.
2. Sandström S. Factors contributing to anxiety and burnout: a study based on performance-based self-esteem. Master thesis for Degree of Master of Medical Science, Biomedical Laboratory Science programme, June 2012.