

WOLF - Mental workload and indicators of chronic cardiovascular diseases - WOLFF-AO

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Description

WOLF is a study that started in Stockholm in 1993. The acronym WOLF stands for Work-Lipids-Fibrinogen. The study is a collaboration between the former Working Environment Institute, the Institute of Environmental Health and the Institute of Psychosocial Environmental Health at Karolinska Institute and the Institute of Social Medicine in Sundbyberg.

WOLF makes up a collaboration program with the included partial projects WOLF-Stockholm, WOLF-Norrland and WOLF-F (The importance of work organisation and psychosocial strain factors to stress related poor health, five year follow up of WOLF-Norrland).

Main question formulation: Mental work load (stress) and indications for chronic cardiovascular disease. This original and general program idea has been developed and detailed in the partial projects WOLF-Stockholm (WOLF-S), WOLF-Norrland (WOLF-N) and WOLF-F (the five year follow up of

WOLF-N).

WOLF-Stockholm (WOLF-S)

Project term: The importance of psychosocial working environment for the risk factors for heart attack. A study in psychosocial working environment, blood pressure, blood lipids, fibrinogen etc. (WOLF-Stockholm).

Project manager: Lars Alfredsson, the Institute of Environmental Health, Karolinska Institute, Stockholm.

Study population: 5 698 employees at companies connected to occupational health care. Studied from June 1993 to June 1995.

Method: Health examination with focus on cardiovascular disease, blood pressure measurement. Blood samples for biochemical analysis (the laboratory concern CALAB, Stockholm) + questionnaires.

WOLF-Norrland (WOLF-N)

In 1995 WOLF established cooperation with the University of Umeå and started the project WOLF-N with the operative management located at the occupational and environmental medicine clinic at the University Hospital of Norrland (Anders Knutsson).

Project term: Questions on associations between risk indicators of heart attack and mental work strain related to factors in work organisation, working environment and work content (WOLF-Norrland).

Project manager: Anders Knutsson, Mittuniversitetet, Sundsvall, (former University of Umeå).

Study population: 4 715 employees at companies connected to occupational health care. Studied from September 1996 to April 1998.

Method and organisation with some modifications and additions, same as for WOLF-Stockholm.

WOLF-F (WOLF-Follow up project, continuation of WOLF-N)

During year 2000 WOLF-F was planned with field organisations and investigational populations in northern Sweden (Norrland). WOLF-F was given two directions:

1) WOLFF - Individual follow-up (WOLFF-I) consisted of a follow-up of the earlier examined population of WOLF-Norrland.

Project term: The importance of work organisation and psychosocial factors for stress related poor health. A five year follow-up of WOLF-Norrland.

Project manager: Anders Knutsson, Mittuniversitetet, Sundsvall.

2) WOLF - Healthy Work Places - Work Organisation (arbetsorganisation) (WOLF-AO) with focus on questions on work organisation and health with elaboration and widening of data collection and interview material.

Project term: Healthy workplaces - A study on relations of organisations and individuals and health.

Project manager: Staffan Marklund and Annika Härenstam, Working Life Institute (Arbetslivsinstitutet), Stockholm.

Study population: 32 selected companies, 90 work places and about 4300 employees. To a large extent coinciding with the examined population of WOLF-Norrland.

WOLF U (WOLF Follow up)

In 2009, all participants who previously responded to a WOLF-questionnaire were asked to fill in a follow-up questionnaire (WOLF-U). The survey included questions about work environment, lifestyle and health. The response was positive and about 6 500 people answered the survey. The follow up did not include a health examination.

Purpose:

To study effect of work and lifestyle on health

Data contains personal data

Yes

Code key exists

Yes

Language

[Swedish](#)

Unit of analysis

[Individual](#)

Time Method

[Longitudinal](#)

Time period(s) investigated

1992 – 2009

Variables

895

Number of individuals/objects

4236

Data format / data structure

[Numeric](#)

Data collection 1

- Mode of collection: Self-administered questionnaire: paper
- Time period(s) for data collection: 2000 – 2003
- Source of the data: Population group, Biological samples

Data collection 2

- Mode of collection: Physical measurements and tests
- Time period(s) for data collection: 2000 – 2003
- Source of the data: Population group, Biological samples

Geographic spread

Geographic location: [Sweden](#)

Contributor(s)

Arbetslivsinstitutet

Karolinska Institutet

Funding 1

- Funding agency: Swedish Council for Working Life and Social Research

Funding 2

- Funding agency: Arbetsmiljöfonden

Research area

[Working conditions](#) (CESSDA Topic Classification)

[Medical and health sciences](#) (Standard för svensk indelning av forskningsämnen 2011)

[Cardiac and cardiovascular systems](#) (Standard för svensk indelning av forskningsämnen 2011)

[Occupational health and environmental health](#) (Standard för svensk indelning av forskningsämnen 2011)

[Health](#) (CESSDA Topic Classification)

[General health and well-being](#) (CESSDA Topic Classification)

[Diet and nutrition](#) (CESSDA Topic Classification)

[Specific diseases, disorders and medical conditions](#) (CESSDA Topic Classification)

[Social behaviour and attitudes](#) (CESSDA Topic Classification)

Keywords

[Blood pressure](#), [Blood specimen collection](#), [Heart failure](#), [Exercise](#), [Socioeconomic factors](#), [Emotions](#), [Anxiety](#), [Myocardial infarction](#), [Stroke](#), [Diet](#), [Alcohol drinking](#), [Alcohol-related disorders](#), [Medical history taking](#), [Work](#), [Workload](#), [Psychology](#), [industrial](#), [Job satisfaction](#), [Decision making](#), [Chest pain](#), [Noise](#), [Diabetes mellitus](#), [Lipids](#), [Fibrinogen](#), [Leisure activities](#), [Parturition](#), [Intermittent claudication](#), [Pregnancy](#), [Cardiovascular diseases](#), [Health](#), [Hypertension](#), [Cholesterol](#), [Angina pectoris](#), [Life change events](#), [Air pollutants](#), [Drug utilization](#), [Menstruation](#), [Environmental exposure](#), [Interpersonal relations](#), [Personality](#), [Contraceptives, oral](#), [Smoking](#), [Self concept](#), [Social support](#), [Stress, psychological](#), [Sleep](#), [Occupational exposure](#), [Drug abuse](#), [Swedish cohort consortium \(scc\)](#), [Cohorts.se](#)

Publications

Alfredsson L, Hammar N, Fransson E, de Faire U, Hallqvist J, Knutsson A, Nilsson T, Theorell T, Westerholm P. Job strain and major risk factors for coronary heart disease among employed males and females in a Swedish study on work, lipids and fibrinogen. Scand J Work Environ Health 2002;28(4): 238-248.

Dragano N. Social status, chronic work stress and cardiovascular disease. Masteruppsats vid Institut für Medizinische Soziologie, Henrich Heine Universität 2000. (Matrikelnr 829236)

Fahlgren S. Vi och dom - en fallstudie av två samlokaliserade organisationer. Arbetslivsrapport 2001:8. Arbetslivsinstitutet, Stockholm 2001.

Peter R, Alfredsson L, Hammar N, Siegrist J, Theorell T, Westerholm P. High effort, low reward and cardiovascular risk factors in employed Swedish men and women: baseline results from the WOLF study. J Epidemiol Community Health 1998;52:540-547.

Peter R, Alfredsson L, Knutsson A, Siegrist J, Westerholm P. Does a stressful psychosocial work environment mediate the effects of shift work on cardiovascular risk factors? Scand J Work Environ Health 1999;25:376-381.

Sjögren B, Wang Z, Larsson B-M, Larsson K, Larsson PH, Westerholm P. Increase in interleukin-6 and fibrinogen in peripheral blood after swine dust inhalation. Scand J Work Environ Health 1999;25:39-41

Theorell T, Alfredsson L, Westerholm P, Falck B. Coping with unfair treatment at work - what is the

relationship between coping and hypertension in middle-aged men and women? An epidemiological study of working men and women in Stockholm (the WOLF-study). *Psychother Psychosom* 2000;69:86-94.

Theorell T, Westerlund H, Ahlberg-Hultén G, Hertting A, WOLF study group. Krav och kontroll i magra organisationer. - en diskussion med rekommendationer inför framtida forskning baserad på analyser av data från 5620 anställda i olika företag åren 1992-1995 i WOLF-studien samt av indikatorer på arbetsmiljöförändringar för vårdpersonal i MUSIC Norrtälje-studien. Stockholm. RALF:s konferens om magra organisationer. Stockholm 1999.

Åkerstedt T, Knutsson A, Westerholm P, Theorell T, Alfredsson L, Kecklund G. Sleep disturbances, work stress, and work hours. A cross-sectional study. *J Psychosom Res* 2002;53:741-748.

Åkerstedt T, Knutsson A, Westerholm P, Theorell T, Alfredsson L, Kecklund G. Work organisation and unintentional sleep: results from the WOLF study. *Occup Environ Med* 2002;59:595-600.

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Fransson EIM, Alfredsson L, de Faire U, Knutsson A, Westerholm P. Leisure time, occupational and household physical activity, and risk factors for cardiovascular disease in working men and women: the WOLF study. *Scand J Public Health*. 2003;31:324-333.

[Till lärosätets \(miun\) databas](#)

Karlson B, Knutsson A, Lindahl B, Alfredsson L. Metabolic disturbances in male workers with rotating three-shift work. Results of the WOLF study. *Int Arch Occup Environ Health* 2003;76:424-430.

Theorell T, Oxenstierna G, Westerlund H, Ferrie J, Hagberg J, Alfredsson L. Downsizing of staff is associated with lowered medically certified sick leave in female employees. *Occup Environ Med*. 2003;60:e9.

Brostedt EM, de Faire U, Westerholm P, Knutsson A, Alfredsson L. Job strain and plasminogen activator inhibitor-1: results from the Swedish WOLF study. *Int Arch Occup Environ Health*, 2004;77:341-344.

Westerlund H, Theorell T, Alfredsson L. Organisational instability and cardiovascular risk factors in white-collar employees. An analysis of correlates of structural instability of workplace organisation on risk factors for coronary heart disease in a sample of 3,904 white collar employees in the Stockholm region. *Eur J Publ Health* 2004;14:37-42.

Åkerstedt T, Knutsson A, Westerholm P, Theorell T, Alfredsson L, Kecklund G. Mental fatigue, work and sleep. *J Psychosom Res*. 2004;57:427-433.

Fahlén G, Peter R, Knutsson A. The effort-reward imbalance model of psychosocial stress at the workplace - a comparison of ERI exposure assessment using two estimation methods. *Work & Stress* 2004;18:81-88.

Theorell T, Westerlund H, Alfredsson L, Oxenstierna G. Coping with critical life events and lack of control - the exertion of control. *Psychoneuroendocrinology*. 2005;30:1027-1032.

Karlsson B, Alfredsson L, Knutsson A, Andersson E, Torén K. Total mortality and cause-specific mortality of Swedish shift- and dayworkers in the pulp and paper industry in 1952-2001. *Scand J Work Environ Health*. 2005;31(1):30-35.

Theorell T, Hasselhorn H-M. On cross-sectional questionnaire studies of relationships between psychosocial conditions of work and health - are they reliable? *Int. Arch Occup Environm Health*

(2005) 78:517-522 (Editorial).

Fahlén G, Knutsson A, Peter R, Åkerstedt T, Nordin M, Alfredsson L, Westerholm P. Effort-reward imbalance, sleep disturbances and fatigue. *Int Arch Occup Environ Health* 2006 May;79(5):371-8.

Nordin M, Knutsson A, Sundbom E, Åkerstedt T, Westerholm P, Alfredsson L. Low social support and vulnerability in the association with disturbed sleep. Longitudinal results from the WOLF study. Submitted to *J Occup Health Psychology*.

Nordin M, Knutsson A, Sundbom E, Åkerstedt T, Alfredsson L, Westerholm P. Low social support and coping strategies in the prediction of disturbed sleep: Main and interactive effects from the longitudinal WOLF study.

Höckertin C, Härenstam A. The impact of ownership on psychosocial working conditions: a multilevel analysis of 60 workplaces. *Economic and Industrial Democracy* 2006; 27(2):245-284.

Marklund S, Bolin M, von Essen J. Can individual health differences be explained by workplace characteristics?-A multilevel analysis. *Soc Sci Med*. 2008 Feb;66(3):650-62.

Kivimäki M, Theorell T, Westerlund H, Vahtera J, Alfredsson L. Job strain and ischaemic disease: does the inclusion of older employees in the cohort dilute the association? The WOLF Stockholm Study. *J Epidemiol Community Health*. 2008 Apr;62(4):372-4.

Fransson E, Knutsson A, Westerholm P, Alfredsson L. Indications of recall-bias found in a retrospective study of physical activity and myocardial infarction. *J Clin Epidemiol* 2008Aug;61(8):840-7.

Bolin M & Härenstam A. An empirical study of bureaucratic and post-bureaucratic characteristics in 90 workplaces. *Economic and Industrial Democracy*. 2008; 29(4): 541-64.

Höckertin, C. Control and participation for employees within geriatric care - does ownership make a difference? *Work: A Journal of Prevention, Assessment & Rehabilitation*. 2008;30(2):137-147.

Bolin M, Marklund S, Bliese P. Organizational impact on psychosocial working conditions. *Work: A Journal of Prevention, Assessment & Rehabilitation*. 2008;30(4):451-9.

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Fahlén G, Goine H, Edlund C, Arrelöv B, Knutsson A, Peter R. Effort-reward imbalance, "locked in" at work, and long-term sick leave. *Int Arch Occup Environ Health*. 2009 Jan;82(2):191-7.

Nyberg A, Alfredsson L, Theorell T, Westerlund H, Vahtera J, Kivimäki M. Managerial leadership and ischaemic heart disease among employees: the Swedish WOLF study. *Occup Environ Med*. 2009 Jan;66(1):51-5.

Tsutsumi A, Iwata N, Watanabe N, de Jonge J, Pikhart H, Fernández-López JA, Xu L, Peter R, Knutsson A, Niedhammer I, Kawakami N, Siegrist J. Application of item response theory to achieve cross-cultural comparability of occupational stress measurement. *Int J Methods Psychiatr Res*. 2009 Feb 4;18(1):58-67.

Åkerstedt T., Nordin M., Alfredsson L., Westerholm P., Kecklund G. Sleep and sleepiness: impact of entering or leaving shiftwork - a prospective study. *Chronobiology International*, 2010, 27, 987-96.

Leineweber C, Westerlund H, Theorell T, Kivimäki M, Westerholm P, Alfredsson L. Covert coping with unfair treatment at work and risk of incident myocardial infarction and cardiac death among men:

Prospective cohort study. J Epidemiol Community Health, 2011;65:420-425

Nyberg ST, Heikkilä K, Fransson EI, Alfredsson L, De Bacquer D, Bjorner JB, Bonenfant S, Borritz M, Burr H, Casini A, Clays E, Dragano N, Erbel R, Geuskens GA, Goldberg M, Hooftman WE, Houtman IL, Jöckel KH, Kittel F, Knutsson A, Koskenvuo M, Leineweber C, Lunau T, Madsen IEH, Magnusson Hanson LL, Marmot MG, Nielsen ML, Nordin M, Oksanen T, Pentti J, Rugulies R, Siegrist J, Suominen S, Vahtera J, Virtanen M, Westerholm P, Westerlund H, Zins M, Ferrie JE, Theorell T, Steptoe A, Hamer M, Singh-Man

Åkerstedt T, Nordin M, Alfredsson L, Westerholm P, Kecklund, G. Predicting changes in sleep complaints from baseline values and changes in work demands, work control, and work preoccupation - The WOLF-project. Sleep Medicine 2012;13(1):73-80.

Fransson EI, Nyberg ST, Heikkilä K, Alfredsson L, De Bacquer D, Batty GD, Bonenfant S, Casini A, Clays E, Goldberg M, Kittel F, Koskenvuo M, Knutsson A, Leineweber C, Magnusson Hanson LL, Nordin M, Singh-Manoux A, Suominen S, Vahtera J, Westerholm P, Westerlund H, Zins M, Theorell T, Kivimäki M; for the IPD-Work Consortium. Comparison of alternative versions of the job demand-control scales in 17 European cohort studies: the IPD-Work consortium. BMC Public Health 2012;12:62

Homepage

[The study homepage](#)

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This resource has the following relations

Is obsoleted by [WOLF - Psykisk arbetsbelastning och indikatorer för kronisk hjärt- och kärlsjukdom](#)

Related research data in SND's catalogue

[WOLF - Mental workload and indicators of chronic cardiovascular diseases](#)

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