



**Karolinska  
Institutet**

**Institutionen för folkhälsovetenskap**

# Work Absenteeism and Productivity Losses Associated with Overweight

## AKADEMISK AVHANDLING

som för avläggande av medicine doktorsexamen vid Karolinska Institutet offentlig försvaras i aulan på plan 2, Norrbacka, KI Solna.

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# ABSTRACT

**Background** Overweight has increased dramatically in the Western world during the past decades. The condition is associated with impaired health through, e.g., cardiovascular disease, musculo-skeletal disorders, type II diabetes, sleep apnoea and cancer. Apart from causing individual suffering, overweight incurs costs to society.

**Aim** The aim of the present thesis was to investigate the association between overweight and work absenteeism, as well as the related productivity losses to society.

**Methods** Data on individual characteristics, e.g. body mass index (BMI; kg/m<sup>2</sup>), smoking, socio-economic index and muscular strength, as well as data on sick-leave, disability pension and mortality, were obtained for 45 920 Swedish men performing mandatory military service conscription tests in 1969/70 (mean age 18.7±0.5y) through linkage of national registers. Overweight was classified into pre-obesity (BMI 25.0-29.9) and obesity (BMI≥30.0), while normal weight was defined as BMI 18.5-24.9.

Based on 38y of follow-up from time of conscription tests, overweight-related risks compared to normal weight for sick-leave, disability pension and premature death were estimated by the use of multivariable regression models. The related productivity losses were estimated using the human capital approach.

**Results** Compared to normal weight, overweight was found to be associated with increased risk of work absenteeism, especially for longer episodes (including death). During a lifetime, an obese individual was estimated to incur productivity losses to a value of €95 000 (CI<sub>95%</sub> €89 000 - €103 000) to society, nearly twice as much as his normal weight counterpart. Approximately 8% of future productivity losses among young men today could be avoided, had no one been overweight.

**Conclusion** Overweight-related costs of work absenteeism appear to be significant and are important to consider in decision making. Effective overweight prevention has the potential to substantially reduce productivity losses to society.

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