



**Ruprecht-Karls-Universität Heidelberg**  
**Medizinische Fakultät Mannheim**  
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**Work demands and the metabolic syndrome – findings from the  
cross-sectional Mannheim Industrial Cohort Study**

Autor: Irina Patricia Getzendörfer  
Institut / Klinik: Mannheimer Institute für Public Health, Sozial- und  
Präventivmedizin  
Doktorvater: Prof. Dr. J. E. Fischer

**Background:** Metabolic deregulation, as indicated by development of the metabolic syndrome, is considered an important pathway possibly underlying the associations between negative psychosocial work demands and cardiovascular disease risk. The rapid transformation of working conditions throughout the last decades created new exposures in addition to the already existing burden. This study aims at exploring the associations of yet unaddressed work characteristics. Especially demands related to use of information and communication technology have emerged only recently with the metabolic syndrome.

**Methods:** The present cross-sectional study used data from an industrial sample in Germany (number of participants = 10,403, 81% male, average age 41.42). Physical, cognitive and emotional demands as well as demands related to the use of information and communication technology were assessed by a validated 14-item questionnaire. The metabolic syndrome was determined by established criteria. Multivariable associations of the above mentioned demands at work with the metabolic syndrome were estimated by logistic regression-based odds ratios with 95% confidence intervals.

**Results:** A perceived physically demanding workplace and perceived cognitive demands were positively associated with the development of the metabolic syndrome (Odds ratio = 1.12, 95% Confidence interval = 1.06 – 1.18 and Odds ratio = 1.19, 95% Confidence Interval = 1.12 – 1.26, respectively). Emotional demands and demands related to the use of information and communication technology demands showed no significant association with the development of the metabolic syndrome.

**Conclusions:** In conclusion, this study observed associations between physically demanding work places and cognitive demands and the metabolic syndrome in a large western occupational population. These potential psychosocial risk factors in the workforce may contribute to the development of the metabolic syndrome. By contrast, high emotional and information and communication technology demands were not associated with the metabolic syndrome. Further longitudinal studies are needed to replicate our findings and to determine the temporal relation of these associations. A more comprehensive picture of workforce health might allow for improved primary prevention interventions at work.