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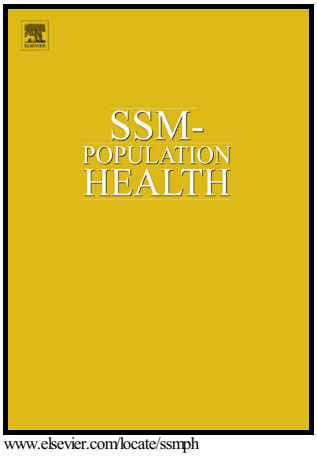

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Caroline Hasselgren, Lotta Dellve, Hans Ekbrand, Anna Zettergren, Henrik Zetterberg, Kaj Blennow, Ingmar Skoog, Björn Halleröd

PII: S2352-8273(18)30050-8
DOI: https://doi.org/10.1016/j.ssmph.2018.06.009
Reference: SSMPH271

To appear in: *SSM - Population Health*

Received date: 2 April 2018
Revised date: 8 June 2018
Accepted date: 21 June 2018

Cite this article as: Caroline Hasselgren, Lotta Dellve, Hans Ekbrand, Anna Zettergren, Henrik Zetterberg, Kaj Blennow, Ingmar Skoog and Björn Halleröd, Socioeconomic status, gender and dementia: The influence of work environment exposures and their interactions with *APOE* ε4, *SSM - Population Health,* https://doi.org/10.1016/j.ssmph.2018.06.009

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Socioeconomic status, gender and dementia: The influence of work environment exposures and their interactions with *APOE* ε4

Caroline Hasselgren[a,b,*], Lotta Dellve[a,b], Hans Ekbrand[a], Anna Zettergren[b], Henrik Zetterberg[b,c,d,e], Kaj Blennow[b,c], Ingmar Skoog[b], Björn Halleröd[a,b]

[a]Department of Sociology and Work Science, University of Gothenburg, Box 720, 405 30 Gothenburg, Sweden

[b]Department of Psychiatry and Neurochemistry, Institute of Neuroscience and Physiology, Sahlgrenska Academy, Centre for Ageing and Health - AgeCap, University of Gothenburg, Mölndal, Sweden

[c]Clinical Neurochemistry Laboratory, Sahlgrenska University Hospital, Mölndal, Sweden

[d]Department of Molecular Neuroscience, UCL Institute of Neurology, Queen Square, London, United Kingdom

[e]UK Dementia Research Institute at UCL, London, United Kingdom

* Corresponding author. Telephone: +4631-7864790. Email address: caroline.hasselgren@gu.se

Accepted manuscript

Abstract

It is a well-established fact that unfavourable social and economic conditions have a negative impact on health and longevity. Recent findings suggest that this is also true of age-related dementias. Yet most common indicators of socioeconomic status (SES) say very little about the actual mechanisms at play in disease development. The present paper explores five work exposure characteristics, all of which have a clear social gradient, that could potentially shed further light on the relationship between SES and dementia. Specifically, it investigates whether these exposures could moderate the impact of a well-known genetic risk factor: the *APOE* ε4 allele. The empirical analyses are based on data from a Swedish population study (n=1019). Main occupation was linked to The Job Exposure Matrix to estimate the individuals' exposure to the following work environment factors: *work control*, *support*, *psychological demands, physical demands* and *job hazards*. All analyses were conducted using binary logistic regression and focused specifically on gene-work exposure interactions. A significant main effect of *work control* on dementia risk was detected for males (OR = 0.68; $p<0.05$), but not for females. However, control was found to significantly moderate the effect of *APOE* ε4 in both genders, albeit in different ways. These findings do not only underscore the importance of considering interactions between social and genetic risk factors to better understanding multifactorial diseases such as dementia. They also propose that gender- and class-based inequities interact, and hence must be considered simultaneously, also in relation to this particular disease.

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