

Social adversity in adolescence increases the physiological vulnerability to job strain in adulthood: A prospective population-based study

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Background

Social conditions during childhood have been mentioned as a possible confounder in the relationship between job strain and myocardial infarction risk. However, stress theory also suggests that early experiences may modify the individual's vulnerability to later stress, for instance through learned helplessness or hopelessness. "Allostatic load" has been used for the characterisation of a long lasting stress reaction. This was used as outcome variable in the present study.

Methods

In a prospective population-based cohort (effective n=771; 72%), we examined the association between on the one hand exposure to an adverse social environment in adolescence, measured at age 16, and job strain measured with the Demand-Control Questionnaire (DCQ) at age 43, and on the other hand allostatic load at age 43. Adversity in adolescence was operationalised as an index comprising residential mobility and crowding, parental loss, parental unemployment, and parental physical and mental illness (including substance abuse). Allostatic load was operationalised as an index comprising body fat, blood pressure, inflammatory markers, glucose metabolism, blood lipids, and cortisol area under curve.

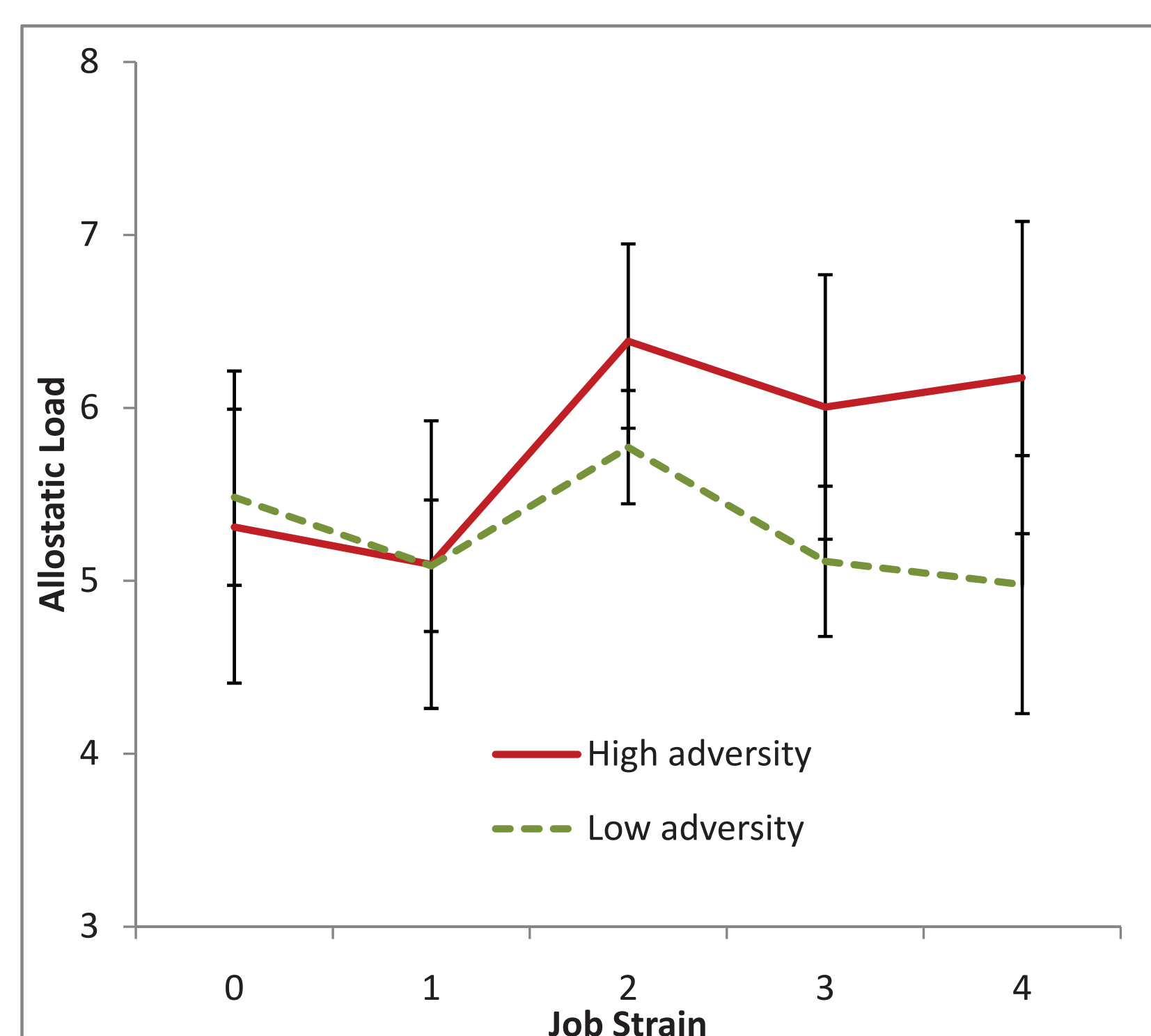


Fig. 1. Illustration of the interaction between adversity in adolescence and job strain in relation to allostatic load. Error bars indicate 95% confidence intervals.

Results

Adversity in adolescence was associated with higher adult allostatic load in women ($\beta = 0.170$, $p = 0.001$). There was also a significant interaction between adversity in adolescence and job strain in the whole cohort ($\beta = 0.081$, $p = 0.026$), indicating that the ability to cope with the demands in working life may be negatively affected by exposures in early life.

Conclusion

Exposure to an adverse social environment in adolescence was associated with increased vulnerability to job strain in mid-life, indicating that sensitivity to stress and social inequalities in health may both be partially determined by material factors in early life.

CONTACT