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HIGH WORK DEMANDS AND DEPRESSION: THE MODERATING ROLE OF THE SEROTONIN TRANSPORTER GENE (*5-HTT*) AND WORK CONTROL

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Background: High work demands (i.e. a heavy workload, tight time pressures, conflicting work tasks) put individuals at high risk of depression. Our aim was to test whether the relationship between high work demands and depression is moderated by genetic vulnerability to depression and by work control.

Methods: Participants are members of the Dunedin Study, a 1972-73 longitudinal birth cohort assessed most recently in 2004-2005, at age 32 (96% response rate). This analysis included all participants who were employed at age 32. Depression was measured using the Diagnostic Interview Schedule. Work demands and work control were assessed in an interview. Genetic vulnerability to stress was ascertained by the serotonin transporter gene (*5-HTT).*

Results: Among individuals exposed to high work demands, symptoms of depression were significantly higher among those who carried two short alleles of the *5-HTT* gene ('s/s' group) than among 'l' carriers (interaction between *5-HTT* gene and work demands: β=4.22, se=1.86, p=0.02). However, this gene-environment interaction was only present among those individuals who had low control over their work (interaction between *5-HTT* gene and high work demands: β: 7.21, se: 2.73, p=0.009), not among those who had high work control (interaction between *5-HTT* gene and high work demands: β: 1.32, se: 2.53, p=0.60).

Conclusion: Pending replication, the serotonin transporter gene appears to moderate the effects of high work demands on symptoms of depression. This gene-environment interaction is attenuated by high work control.

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