Image 1:

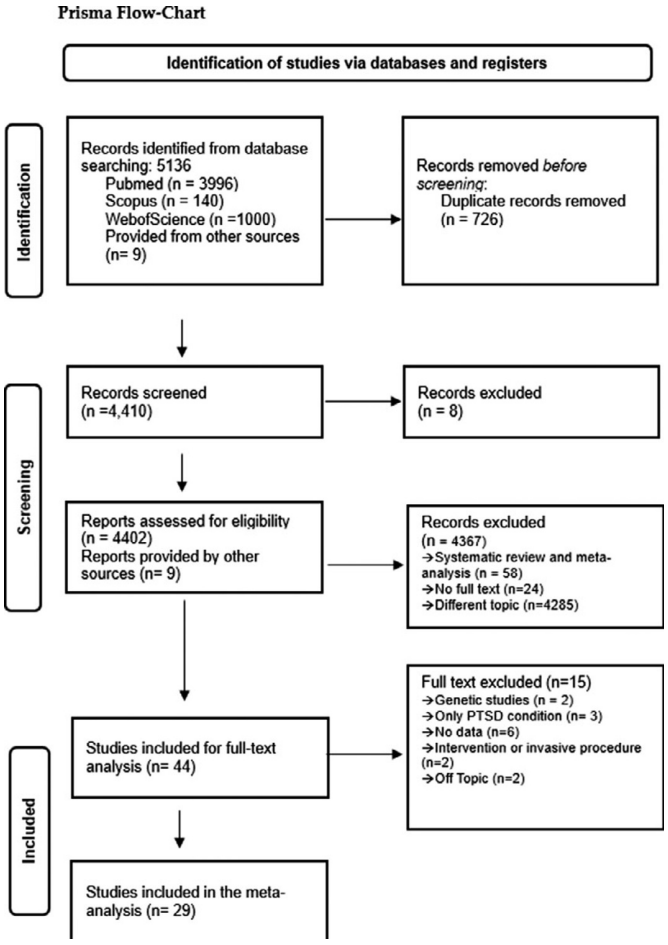


Image 2:

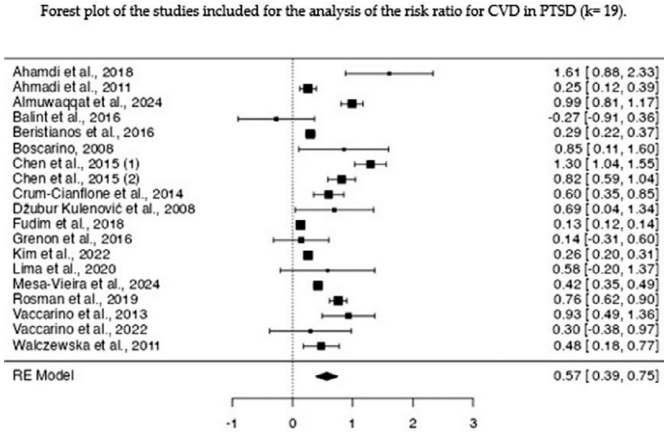
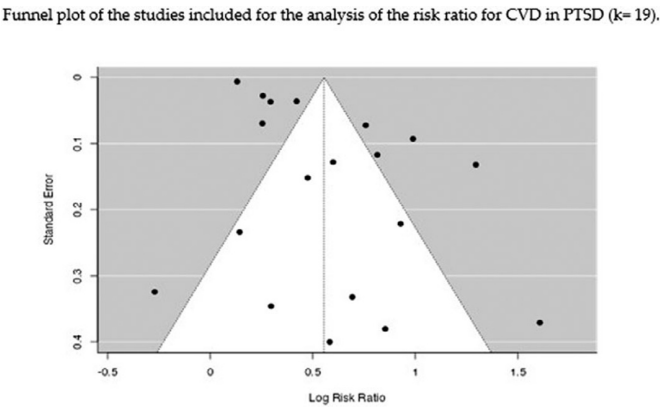


Image 3:



Conclusions: **PTSD** and **CVD** are reciprocally linked. **PTSD** substantially elevates cardiovascular risk, while cardiovascular events act as potent psychological stressors, frequently triggering **PTSD**. These findings highlight the need for integrated care: trauma-informed strategies in cardiology and cardiovascular risk monitoring in psychiatric practice. Early identification and multidisciplinary interventions may help disrupt this pathological cycle and improve long-term prognosis.

Disclosure of Interest: None Declared

Obsessive-Compulsive Disorder

O020

Machine Learning on Suicidal Risk and OCD: A Long-Term Follow-Up

M. Puialto Amieiro[1*], M. Tubio[2], E. Cernadas[3], M. Fernández Delgado[3], E. Real[4], M. D. P. Alonso[4], Á. Carracedo[5], M. Fernández Prieto[2] and J. Segalas[4]

[1]Hospital Álvaro Cunqueiro, Vigo; [2]CIMUS, Universidade de Santiago de Compostela; [3]CITIUS, Santiago de Compostela; [4]Hospital de Bellvitge, Barcelona and [5]USC, Universidade de Santiago de Compostela, Spain

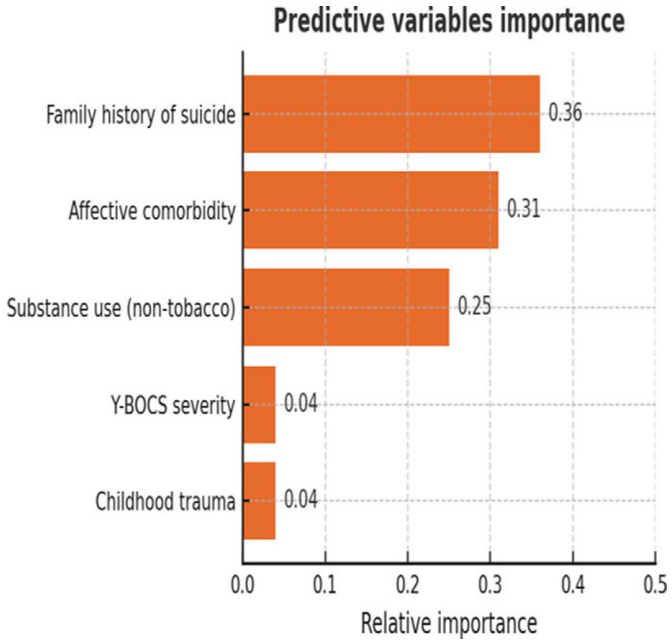
*Corresponding author.

doi: 10.1192/j.eurpsy.2026.10240

Introduction: Obsessive–compulsive disorder (OCD) carries a markedly higher risk of suicidal thoughts and behaviors than the general population. Risk is amplified by affective and anxiety comorbidities, childhood trauma, persistent psychological distress, and certain symptom dimensions. Despite these insights, no reliable strategy exists to predict suicide risk in OCD. Machine-learning approaches are emerging as powerful tools for risk prediction in psychiatry and have shown promise in OCD populations.

Objectives: To develop and validate a **machine-learning predictive model** of suicide risk in OCD using routinely collected clinical and sociodemographic variables.
Methods: Longitudinal study of **199 OCD patients** (mean follow-up 17.8 years). Input variables: sociodemographic data (age at onset/diagnosis, years untreated, sex), psychiatric comorbidities, substance use (alcohol, cannabis, stimulants, benzodiazepines, opioids; tobacco excluded), family history of OCD and suicide, medical comorbidities, childhood trauma (Childhood Trauma Questionnaire subscales), and OCD severity (Yale–Brown Obsessive Compulsive Scale).
Target variable: suicide risk classified into **three categories**—(1) no suicidal behavior, (2) suicidal ideation or thoughts of death, (3) suicide attempt or completed suicide.
Suicidal behaviors were identified through clinical interviews and confirmed in psychiatric records. Supervised *machine-learning* models (*linear discriminant analysis*, *naive Bayes*) were trained with leave-one-out cross-validation. Performance was assessed with **Cohen's kappa, sensitivity, specificity, F1-score, and AUC**.
Results: The optimal model identified **three key predictors: family history of suicide, affective comorbidity, and substance use (excluding tobacco)**. This combination achieved **κ = 26.8 %, sensitivity 71.4 %, specificity 74.4 %, F1 = 62.7 %, and AUC = 0.80**, indicating moderate predictive capability. Neither OCD severity (Y-BOCS) nor childhood trauma improved accuracy. In the cohort, **25 %** experienced suicidal ideation or behavior and **2.5 % (5 patients)** died by suicide.

Image 1:



Conclusions: A straightforward machine-learning model based on **standard clinical data** predicts suicide risk in OCD with moderate accuracy. The three predictors are routinely assessed, showing that **data-driven modeling validates traditional evaluation** for early detection and preventive monitoring.
Clinical Take-Home Message: Machine-learning analysis **confirms and strengthens standard psychiatric assessment**. The presence of **family history of suicide, affective comorbidity, and substance use** provides sufficient information for a moderate-accuracy estimate of suicide risk in OCD, proving that **careful routine evaluation remains the cornerstone of early detection and targeted prevention**.

Disclosure of Interest: None Declared

Epidemiology and Social Psychiatry

O021

Genetic Liability to Attention-Deficit/Hyperactivity Disorder and Economic Outcomes

A. Hazak[1,2,3,4]*, J. Liuhanen[1,4,5], K. Kantojärvi[1,5], S. Sulkava[1,5,6], T. Jääskeläinen[1], V. Salomaa[1,7], S. Koskinen[1], M. Perola[1,8] and T. Paunio[1,5]

[1]Department of Public Health, Finnish Institute for Health and Welfare; [2]Research Programs Unit, Faculty of Medicine, University of Helsinki, Helsinki; [3]Department of Finance, Aalto University, Espoo, Finland; [4]Department of Economics and Finance, Tallinn University of Technology, Tallinn, Estonia; [5]Department of Psychiatry / SleepWell Research Program, University of Helsinki and HUS Helsinki University Hospital; [6]Department of Clinical Genetics, HUS Helsinki University Hospital, Helsinki; [7]Department of Internal Medicine, University of Turku, Turku and [8]Research Program for Clinical and Molecular Metabolism, University of Helsinki, Helsinki, Finland
*Corresponding author.
doi: 10.1192/j.eurpsy.2026.10239

Introduction: Attention-Deficit/Hyperactivity Disorder (ADHD) is characterised by cognitive and behavioural tendencies that extend beyond clinical symptoms and can shape social and economic participation. Polygenic scores (PGS) increasingly enable the study of genetic predispositions in population-based settings, offering insight into how inherited liability—regardless of clinical manifestation—may influence life-course outcomes.
Objectives: This study examined how genetic liability to ADHD relates to a range of economic outcomes in the general population.
Methods: We analysed six Finnish population-based cohorts collected between 1992 and 2017 (N ≈ 20,000; ages 25–64), linking registry, survey and genetic data. PGS for ADHD was derived from large-scale genome-wide association studies (Demontis *et al.* Nature Genetics 2019; 51 63–75) and applied in regression models of educational and labour market outcomes. Models adjusted for demographic and genetic ancestry covariates.
Results: Higher PGS for ADHD were associated with less favourable outcomes across multiple domains of economic performance. Individuals with elevated genetic liability were disadvantaged in both educational attainment and labour market participation. Additional economic disadvantages were largely attributable to earlier sorting into educational and occupational pathways. Moreover, the study offers novel evidence that higher ADHD-PGS is linked not only to objective markers of economic status but also to subjective economic wellbeing.
Conclusions: Genetic predisposition to ADHD is linked to economic disadvantage through multiple pathways across the life course. These findings highlight that ADHD-related genetic liability relates to socio-economic inequality beyond the clinically diagnosed population.

https://doi.org/10.1192/j.eurpsy.2026.10240 Published online by Cambridge University Press