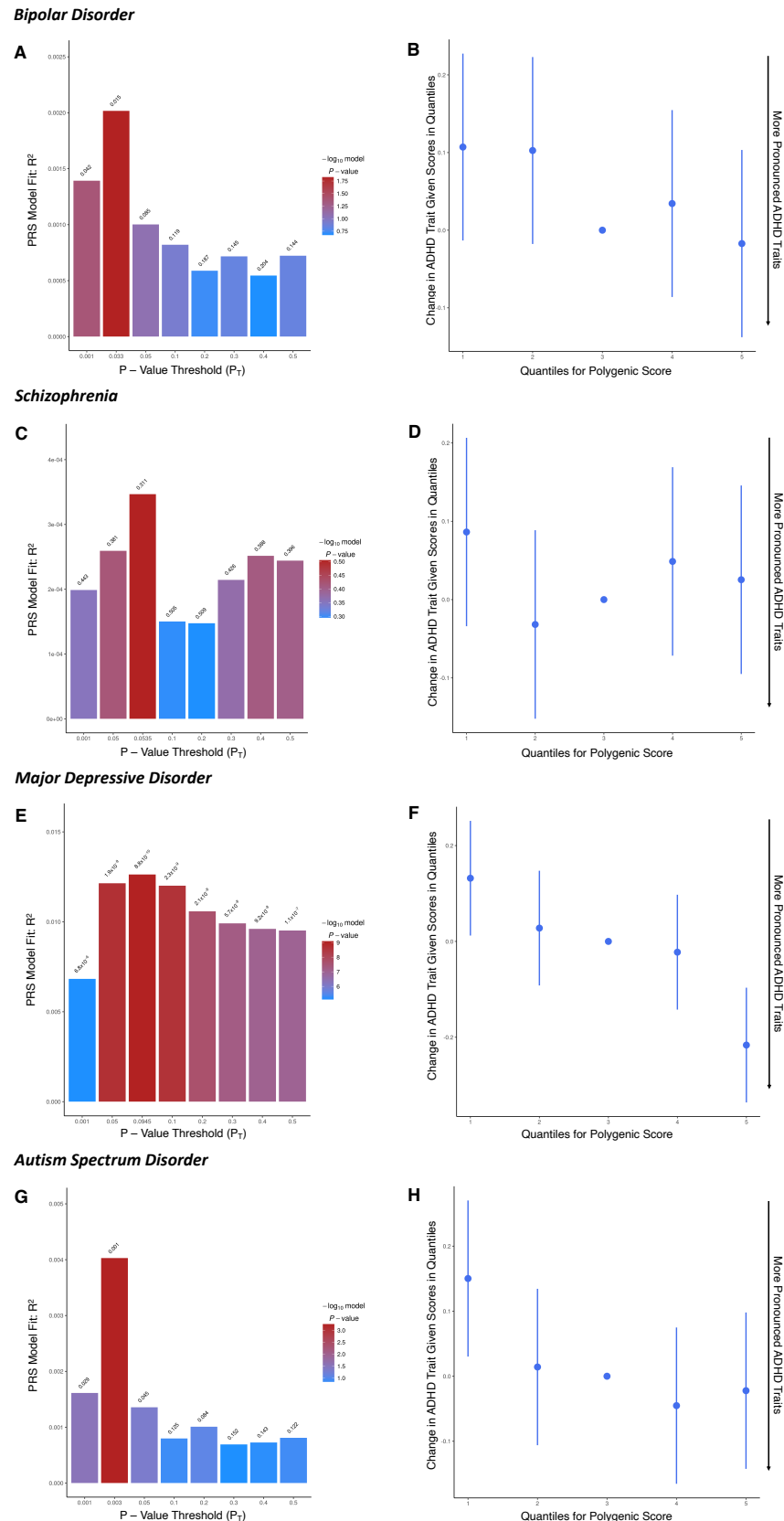


Working memory and reaction time variability mediate the relationship between polygenic risk and ADHD traits in a general population sample | **Supplementary figures**

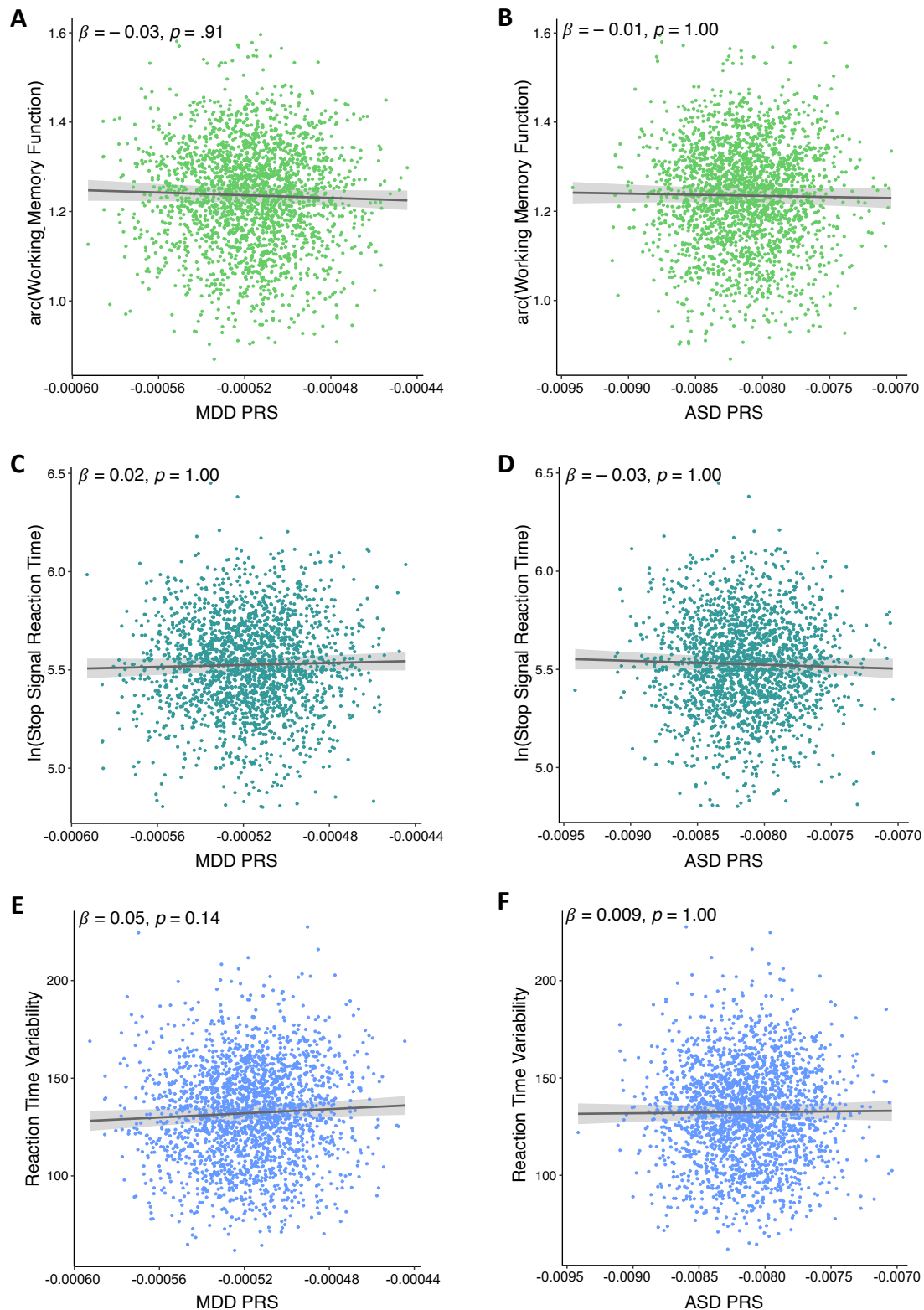


Supplementary Figure 1 Associations between polygenic risk scores for bipolar disorder (A,B), schizophrenia (C,D), major depressive disorder (E,F), autism spectrum disorder (G,H) and ADHD trait scores. First column in each subplot – bar plot showing the associations between ADHD trait scores and PRS across a range of p-value thresholds (p_T). Second column – quantile plot demonstrating the direction of the identified association at the best-fitting p_T . No significant associations were identified for bipolar disorder (A,B) and schizophrenia (C,D) PRS. PRS for major depressive disorder ($p_T = 0.0945$, $R^2 = 1.3\%$, $p = 8.8 \times 10^{-10}$) and autism spectrum disorder ($p_T = 0.003$, $R^2 = 0.4\%$, $p = 0.001$) was associated with ADHD traits, where increased PRS was associated with increased ADHD traits (decreased factor scores). The total sample used in the PRS analyses, $n = 2847$. PRS = polygenic risk score.

Working memory and reaction time variability mediate the relationship between polygenic risk and ADHD traits in a general population sample | **Supplementary figures**

Major Depressive Disorder PRS

Autism Spectrum Disorder PRS



Supplementary Figure 2 **Associations between three ADHD candidate cognitive endophenotypes and MDD PRSs (column 1) and ASD PRSs (column 2).** No significant association was identified between MDD PRS and working memory accuracy scores from the emotional n-back task ($\beta = -0.03, p = 0.91, n = 2221$, A); stop signal reaction time scores from the stop signal task ($\beta = 0.02, p = 1.00, n = 2004$, C); reaction time variability scores from the stop signal task ($\beta = 0.05, p = 0.14, n = 2122$, E) as well as between ASD PRS and PRS working memory accuracy scores ($\beta = -0.01, p = 1.00, n = 2221$, B); stop signal reaction time scores ($\beta = -0.03, p = 1.00, n = 2004$, D) and reaction time variability scores ($\beta = 0.009, p = 1.00, n = 2122$, F). All p-values are Bonferroni corrected for multiple comparisons. PRS = polygenic risk score; MDD = major depressive disorder; ASD = autism spectrum disorder.