## **Description of Additional Supplementary Files**

Supplementary Data 1: Variants in new case-control sample that contribute to novel exome-wide significant and FDR < 5% genes. Locus coordinates are in build37. MPC = 'missense badness, Polyphen-2 and constraint' score.

Supplementary Data 2: Full gene case-control and de novo enrichment results. SCHEMA case-control variant counts are derived from our re-analysis of variant level data downloaded from the SCHEMA Browser (https://schema.broadinstitute.org/downloads).