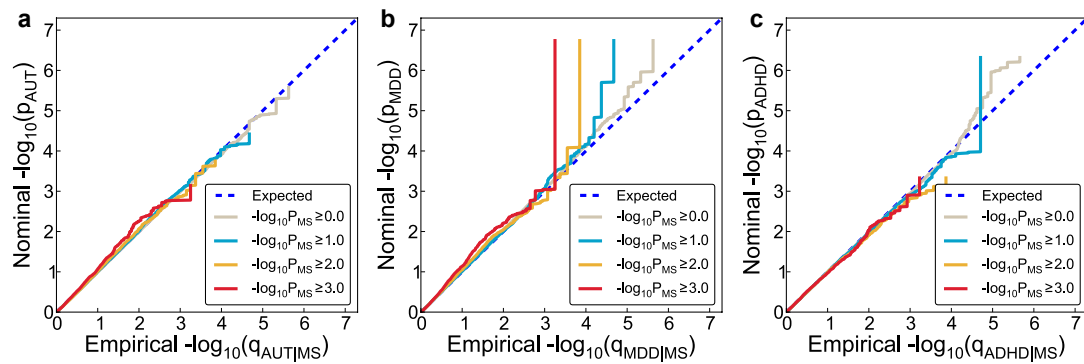


## Supplementary Figure 7



Conditional Q-Q plots of nominal versus empirical  $-\log_{10}$  p-values (corrected for inflation) in **a.**) Autism spectrum disorder (AUT), **b.**) Major depressive disorder (MDD) and **c.**) Attention-deficit/hyperactivity disorder (ADHD) below the standard GWAS threshold of  $p < 5 \times 10^{-8}$  as a function of significance of association with multiple sclerosis (MS) at the level of  $-\log_{10}(p) \geq 0$ ,  $-\log_{10}(p) \geq 1$ ,  $-\log_{10}(p) \geq 2$ ,  $-\log_{10}(p) \geq 3$  corresponding to  $p \leq 1$ ,  $p \leq 0.1$ ,  $p \leq 0.01$ ,  $p \leq 0.001$ , respectively. Dotted lines indicate the null-hypothesis.