



***Vulnerability and Resilience: Mood
and Anxiety Disorders
The Genetics of Bipolar Disorder***

Thomas Lehner, Ph.D., M.P.H.

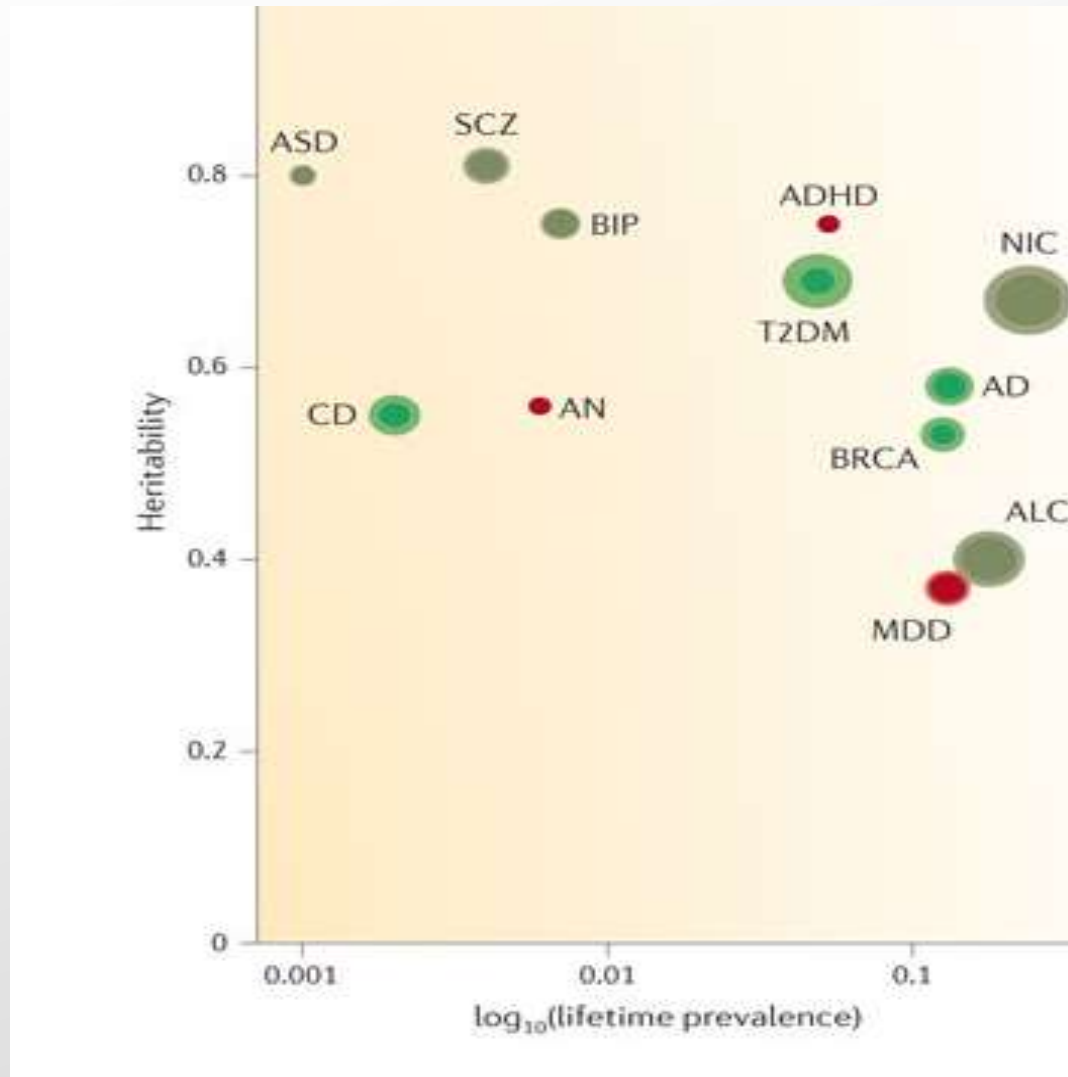
Office of Genomics Research Coordination (OGRC)

October 16, 2017



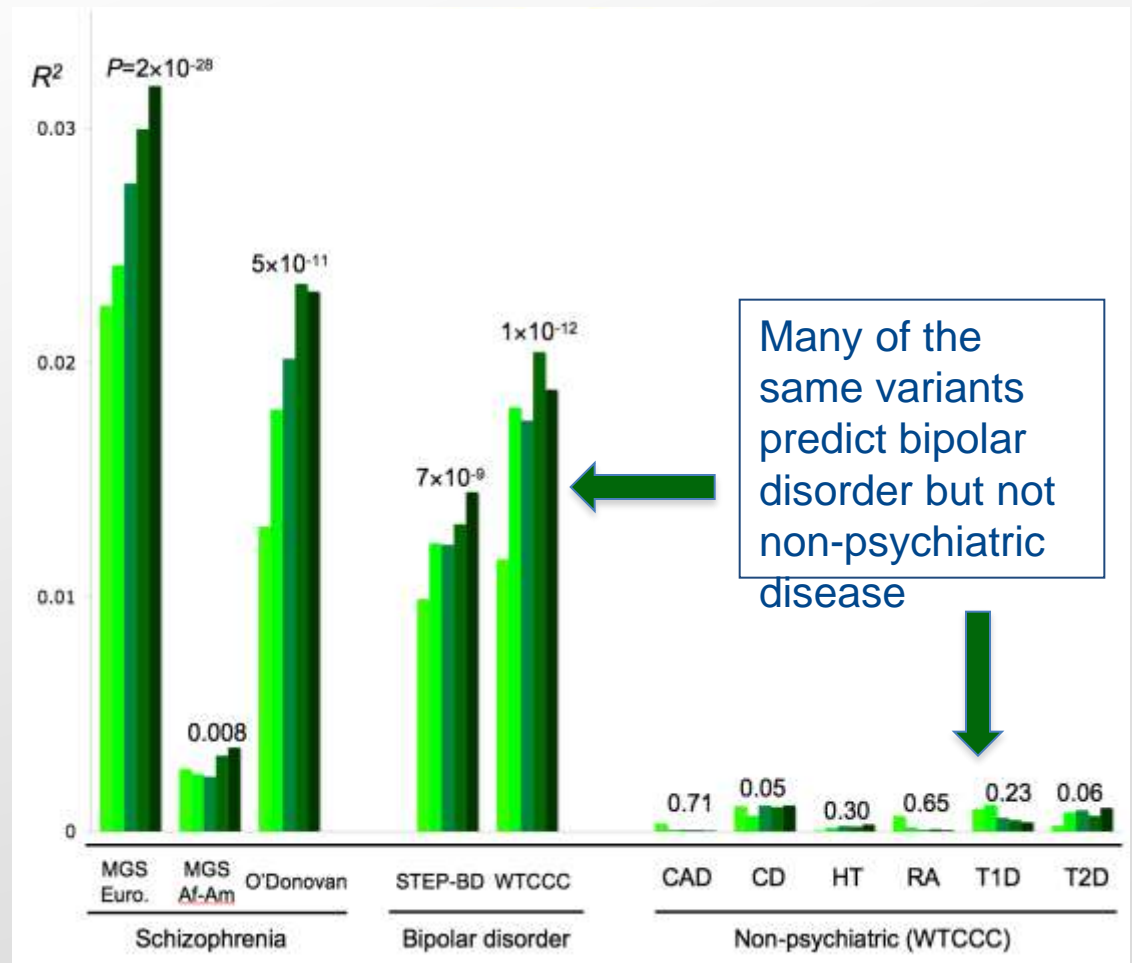
National Institute
of Mental Health

Heritability of Neuropsychiatric Disorders



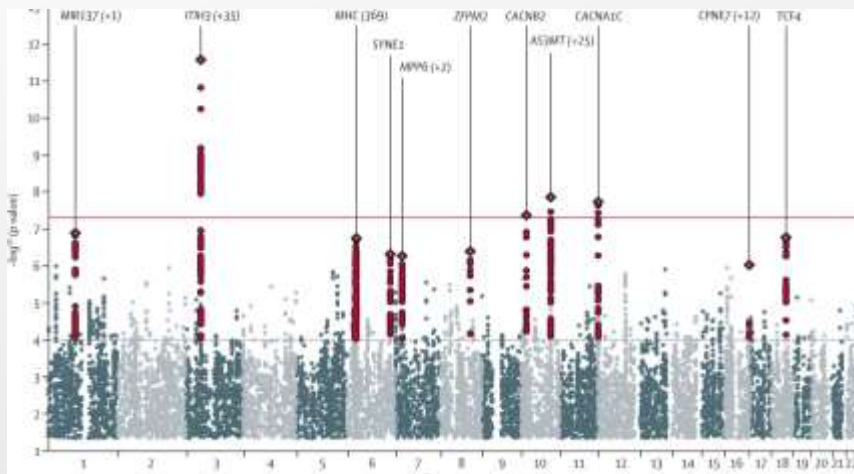
Genomic Background Risk

Grouping together a large numbers of genetic variants that are more common in cases can predict differences between cases and controls



Molecular data points to complex overlap

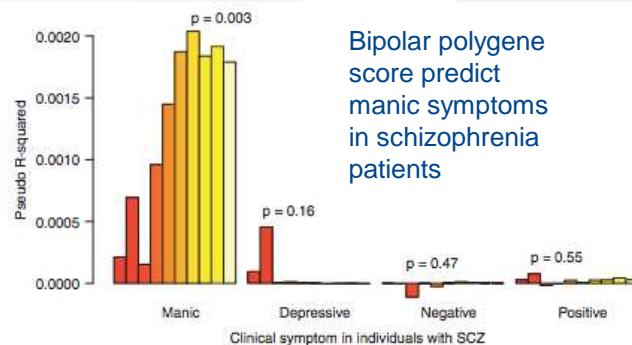
Overlap of genetic loci found in analyses cross-disorder



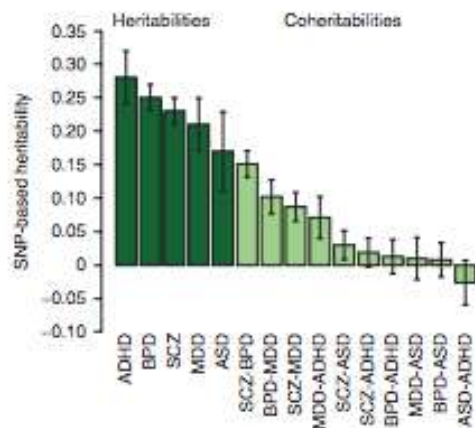
Psychiatric Genomics Consortium (PGC)
Cross Disorder Group. Lancet 2013

PGC CDG et al., Nat Genet 2014

Sub-phenotypes cross disorders



Ruderfer et al., Mol Psych 2014



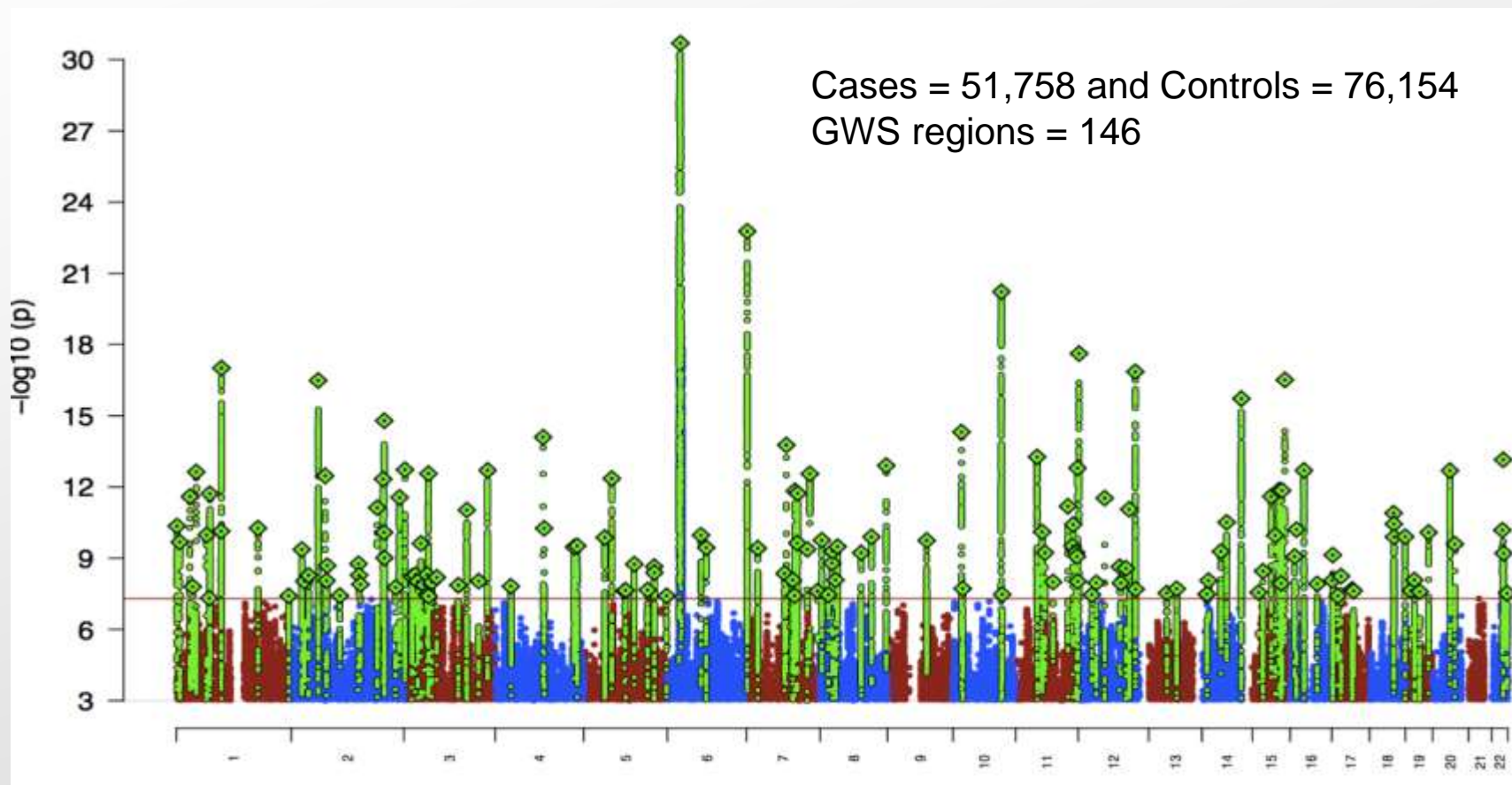
Molecular heritability cross disorders



NIH National Institute of Mental Health

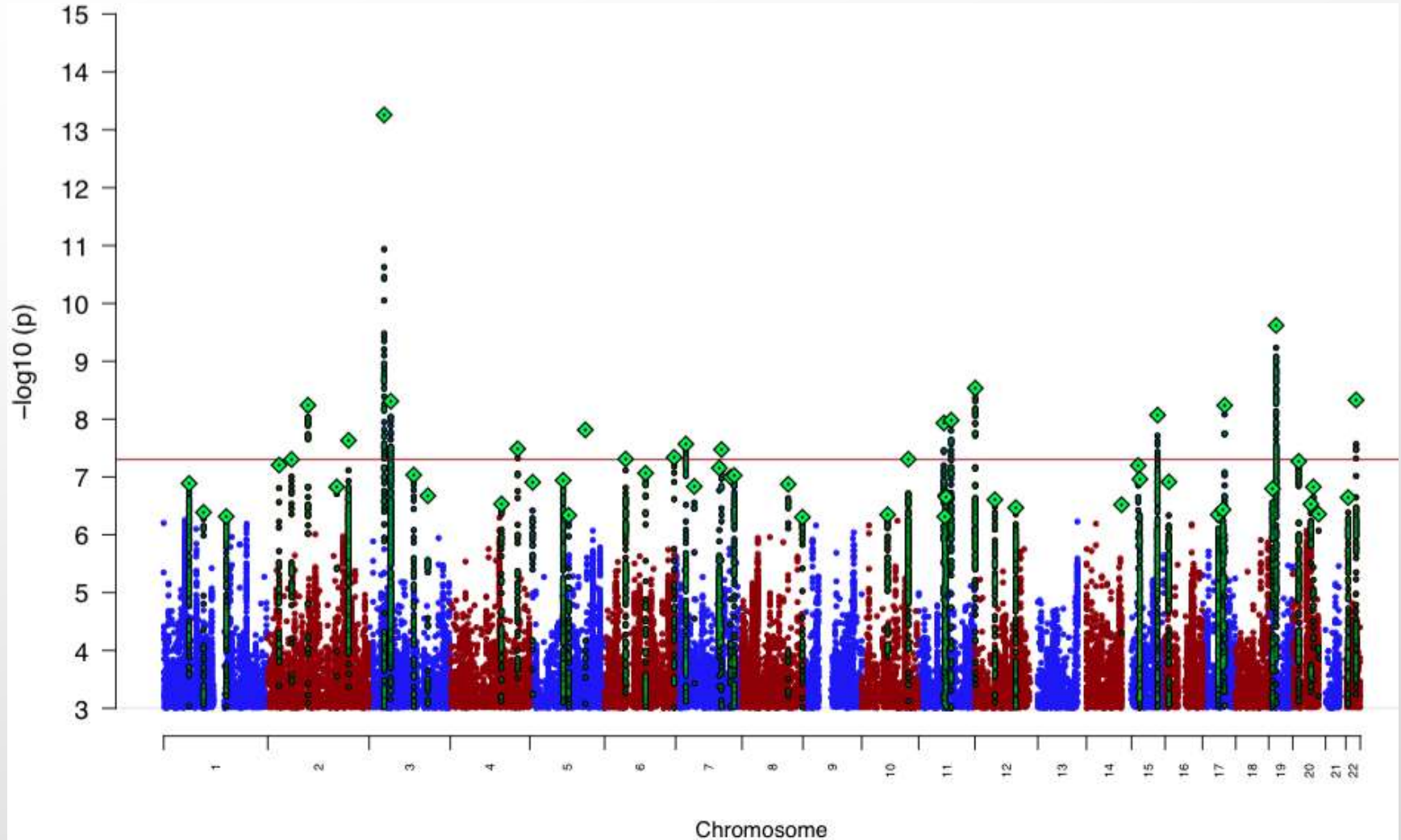
Common variation contribution to disease risk in Schizophrenia

Manhattan Plot SCZ91 – July 2016

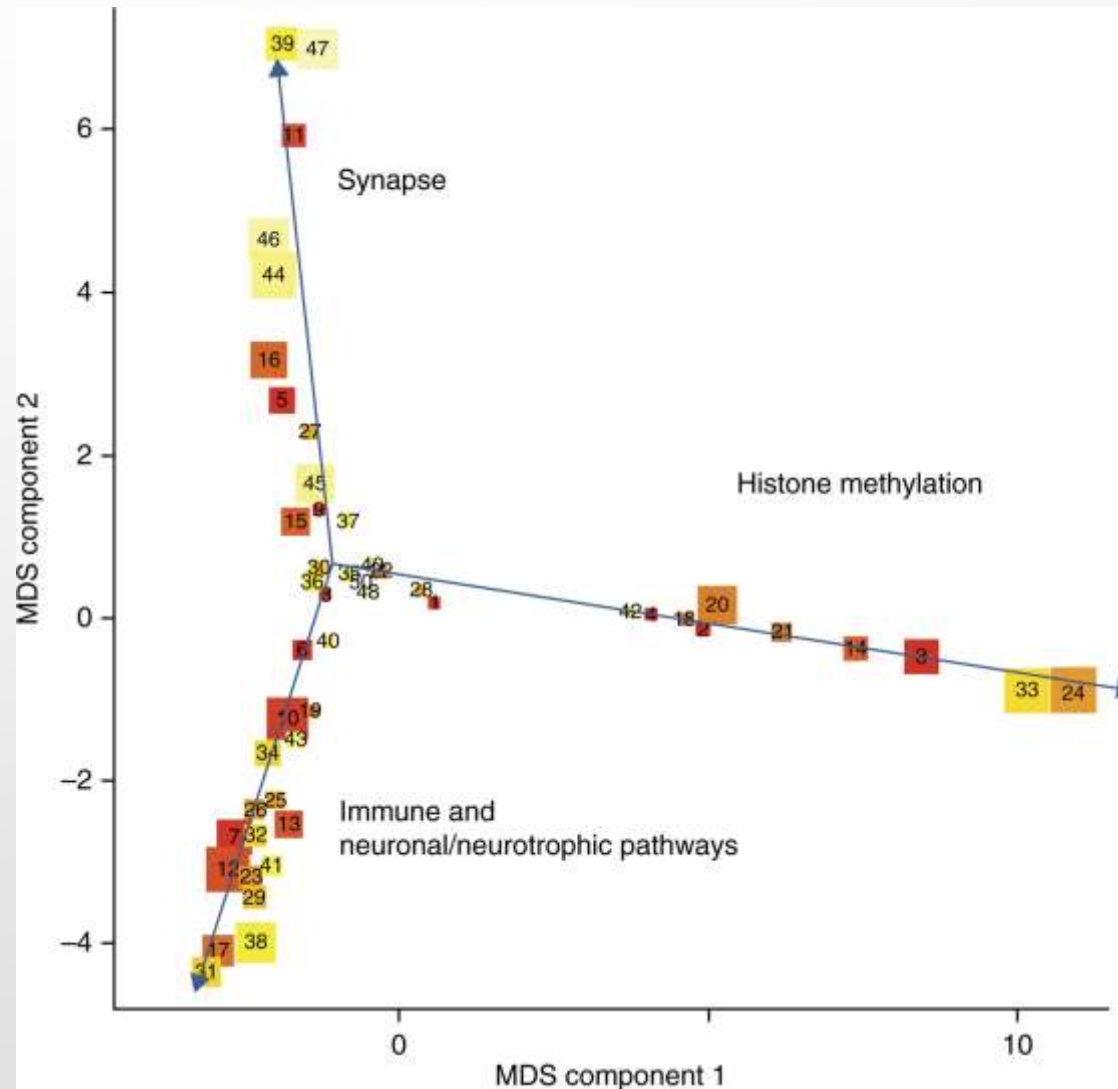


PGC2-BD: 20,352 cases and 31,358 controls

19 GWS loci, 12 novel – follow up analysis found 30 loci



Pathway analysis for BP, SZ, MDD



Systems level approach: molecular networks in brain function and dysfunction

