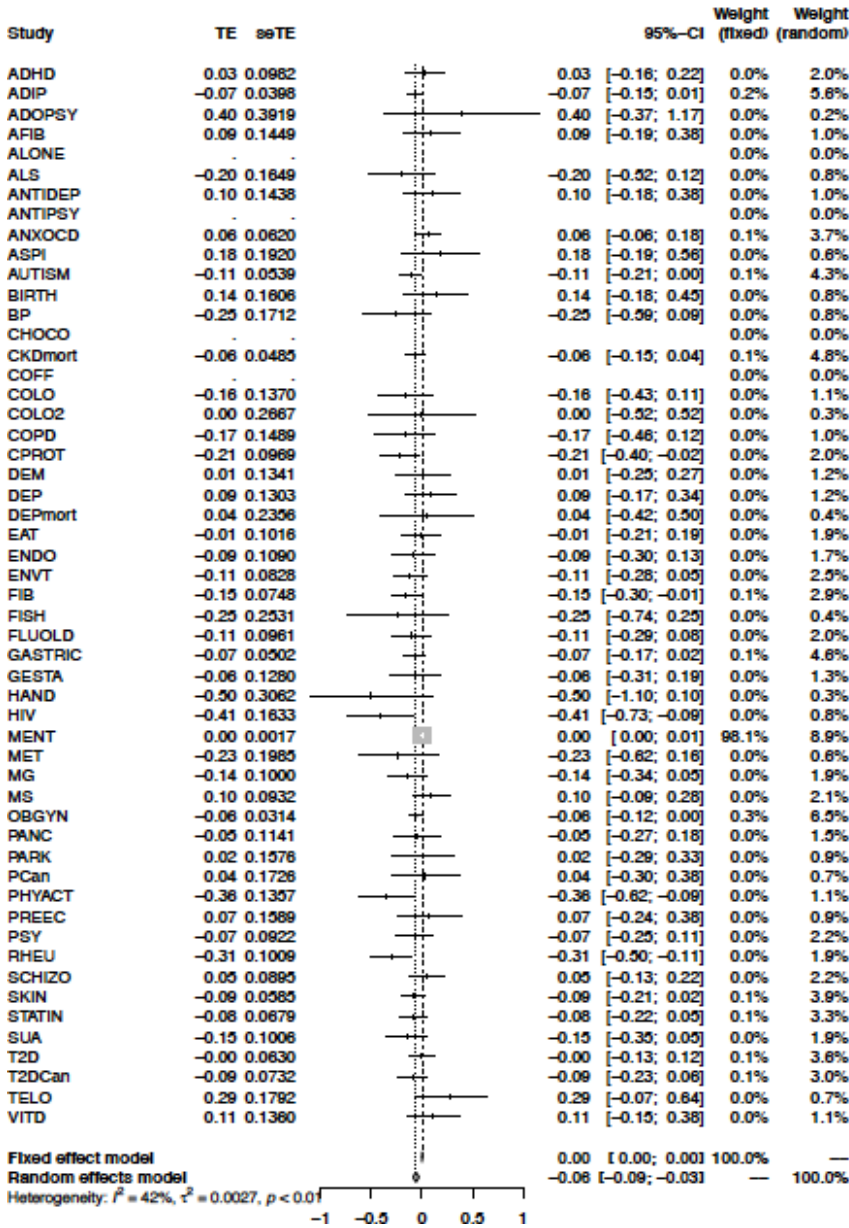
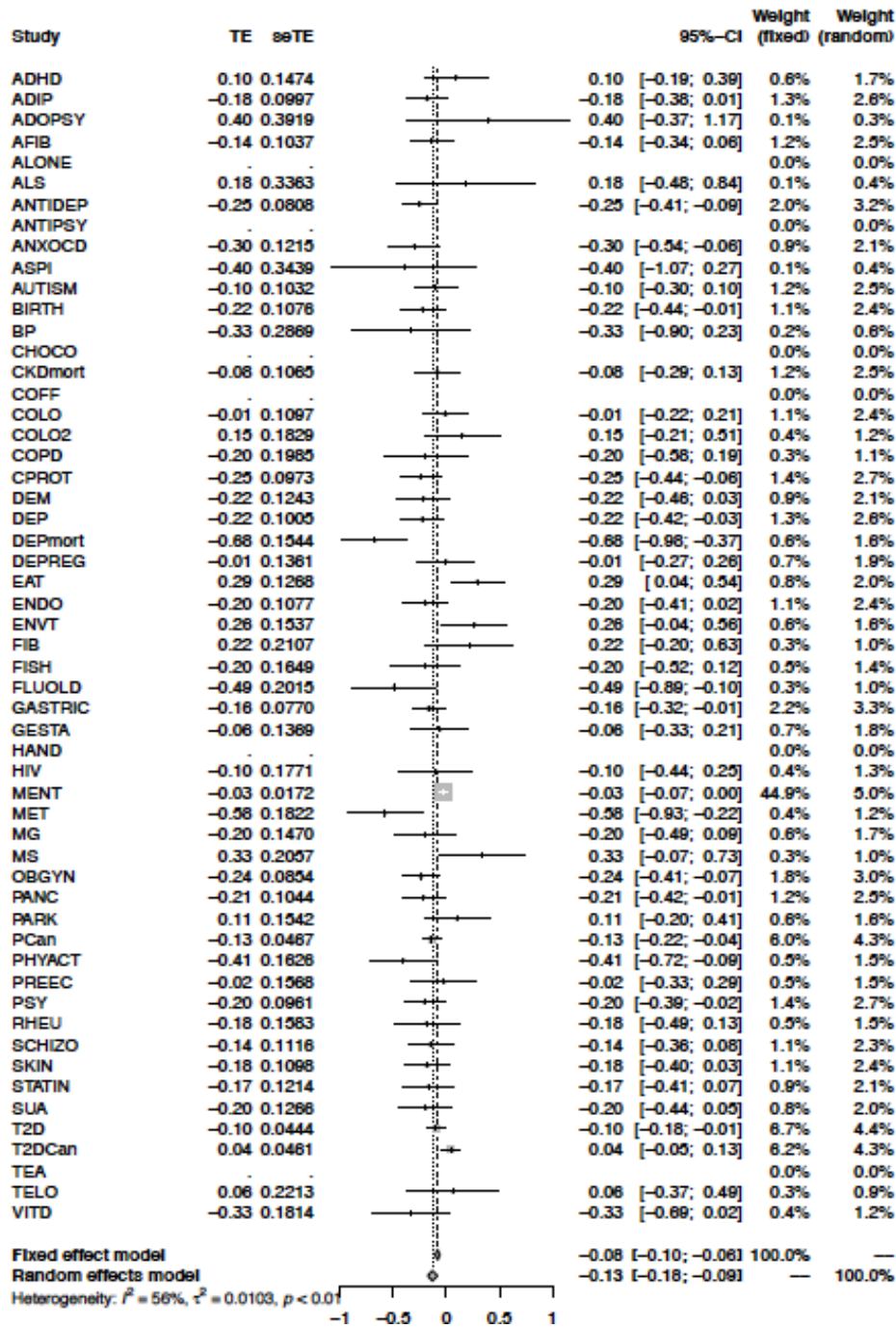


Additional file 6: Figure 16 to 43 Forest plots of the meta-analyses of kappa estimated for each individual association.

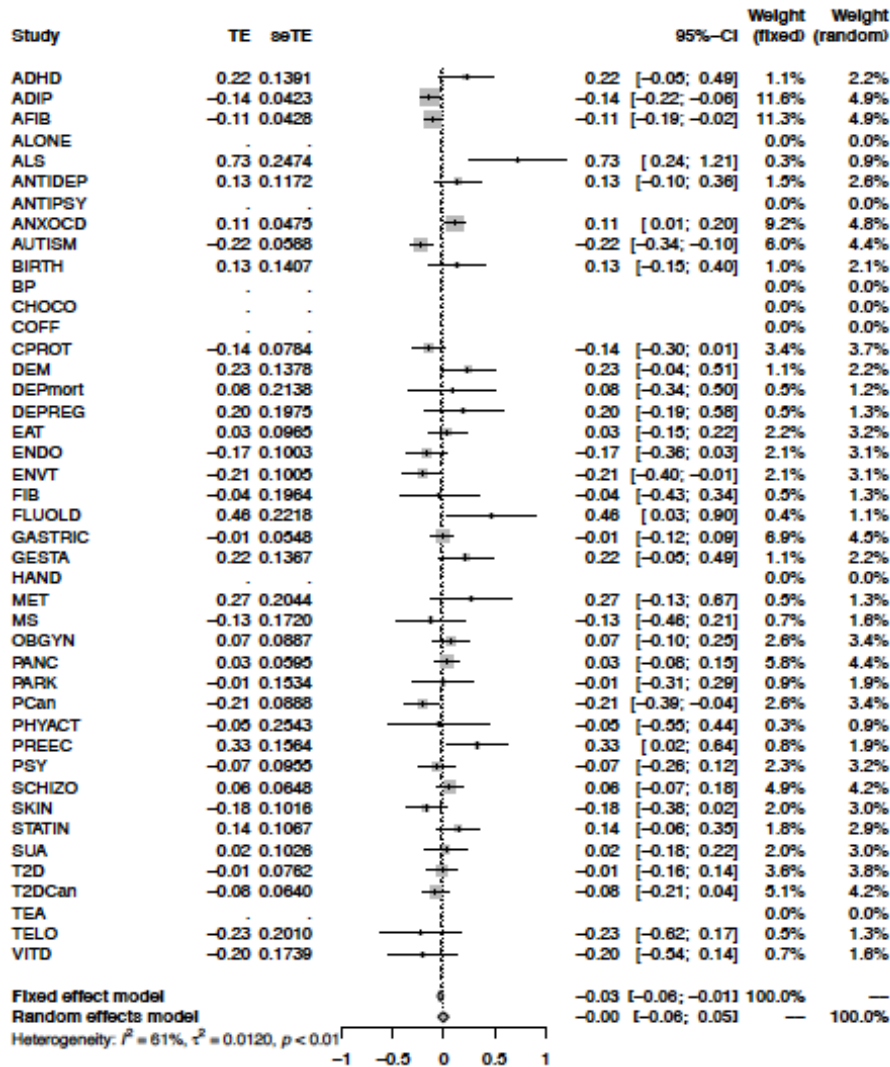
16) Number of cases and excess of significance bias



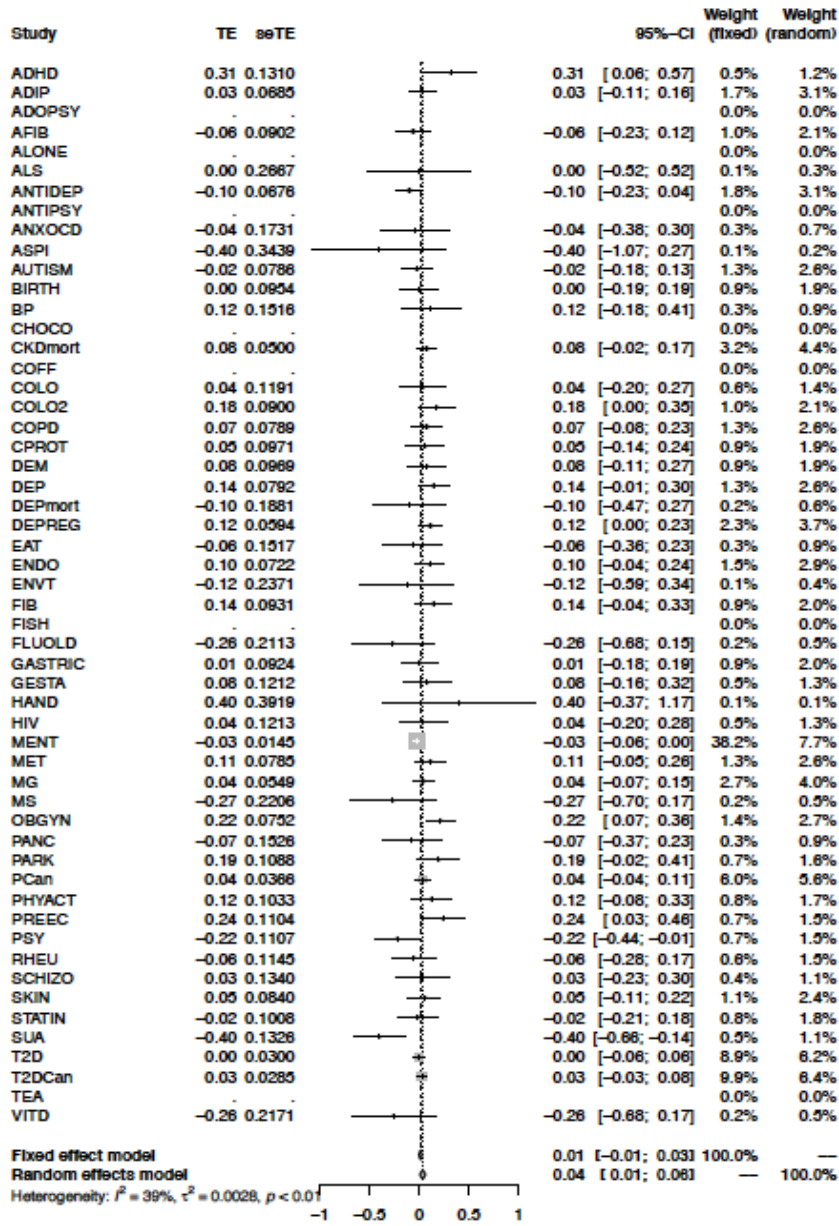
17) Number of cases and I<sup>2</sup> > 50%



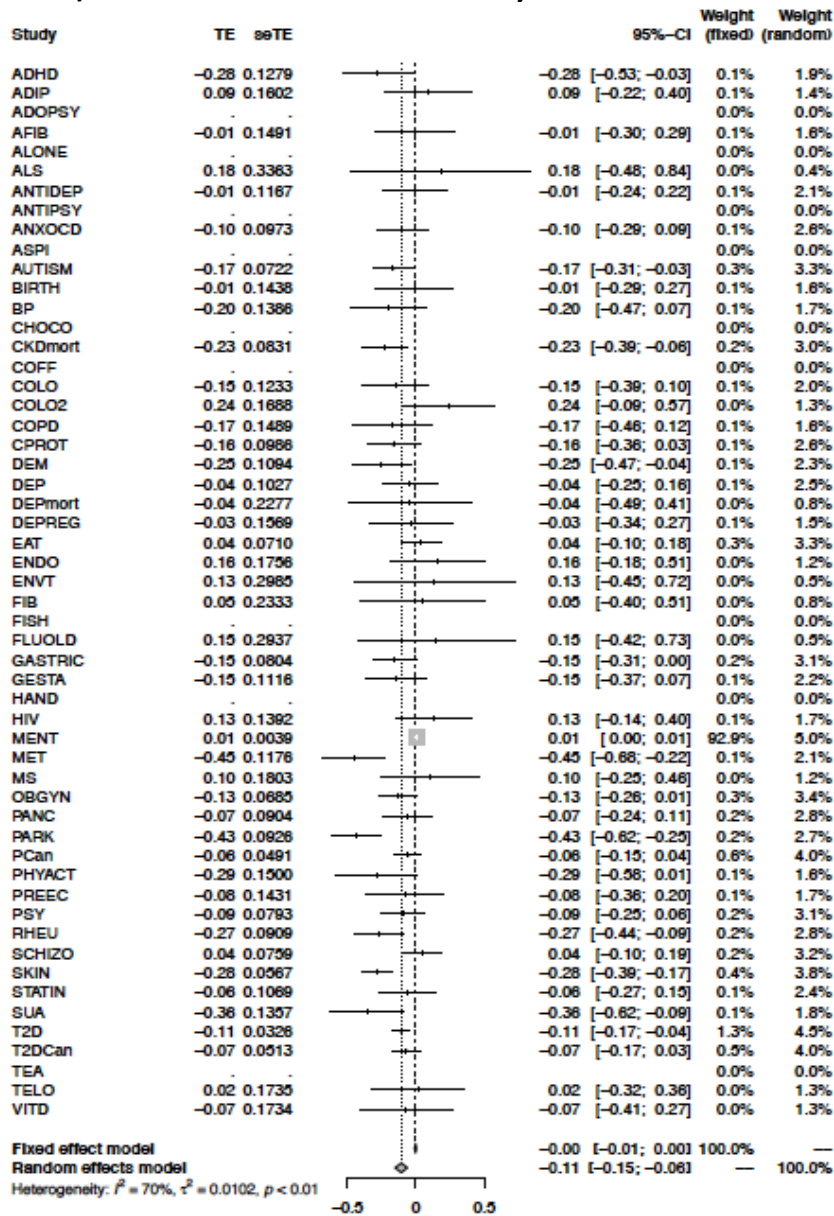
### 18) Number of cases and largest studies



### 19) Number of cases and prediction intervals

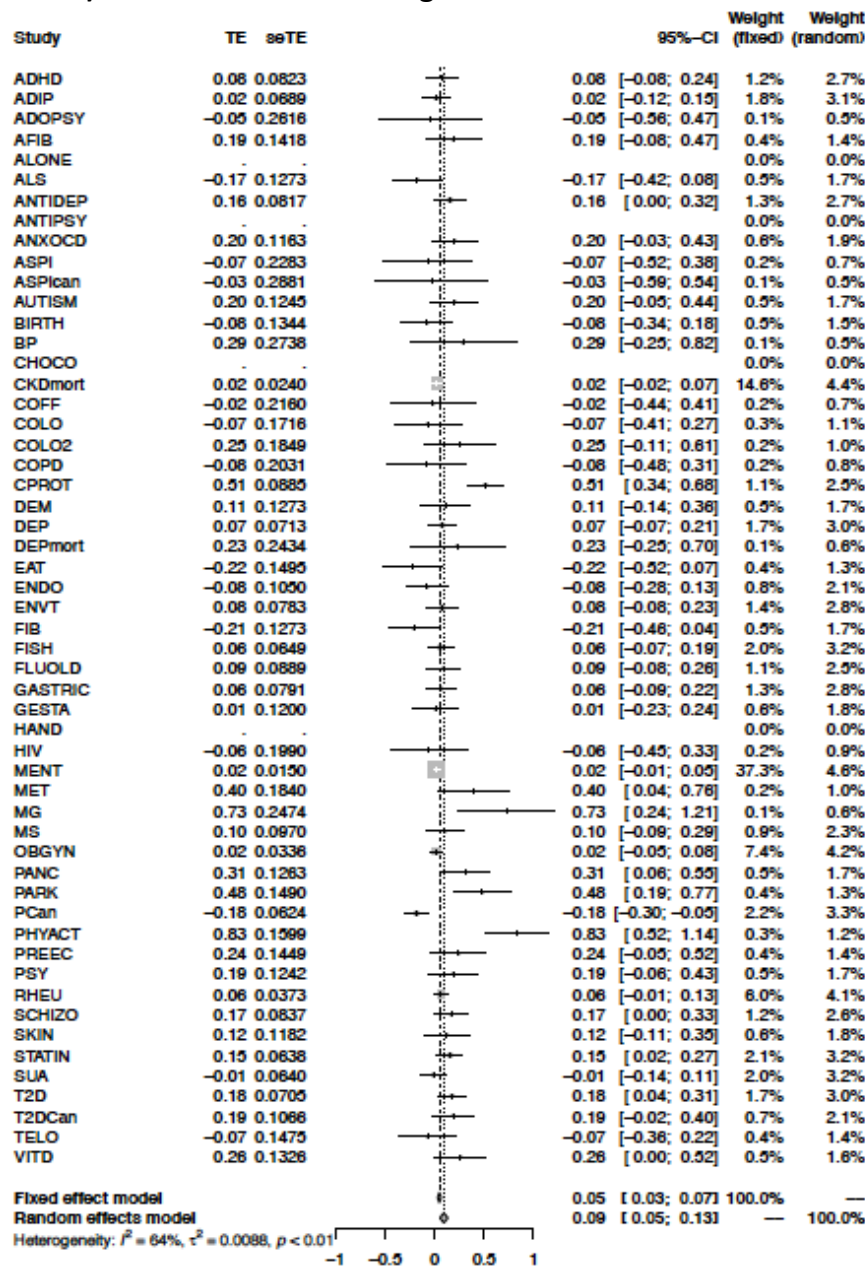


## 20) Number of cases and small study effects

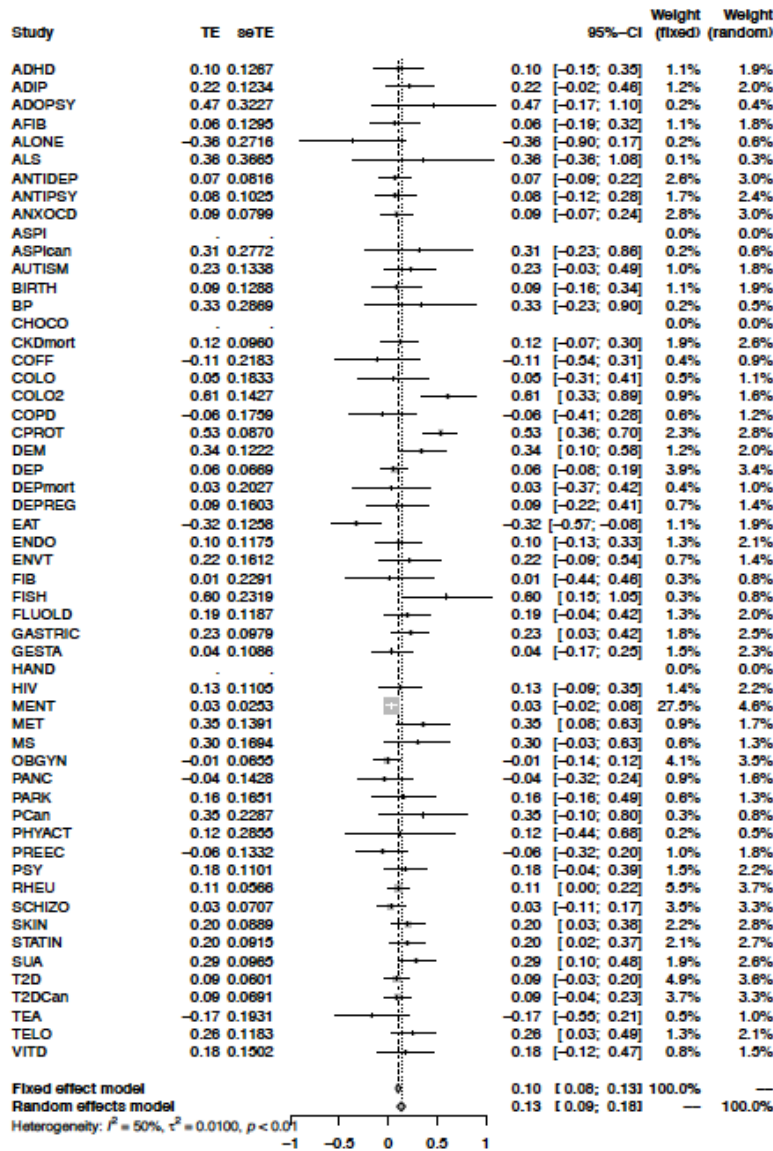




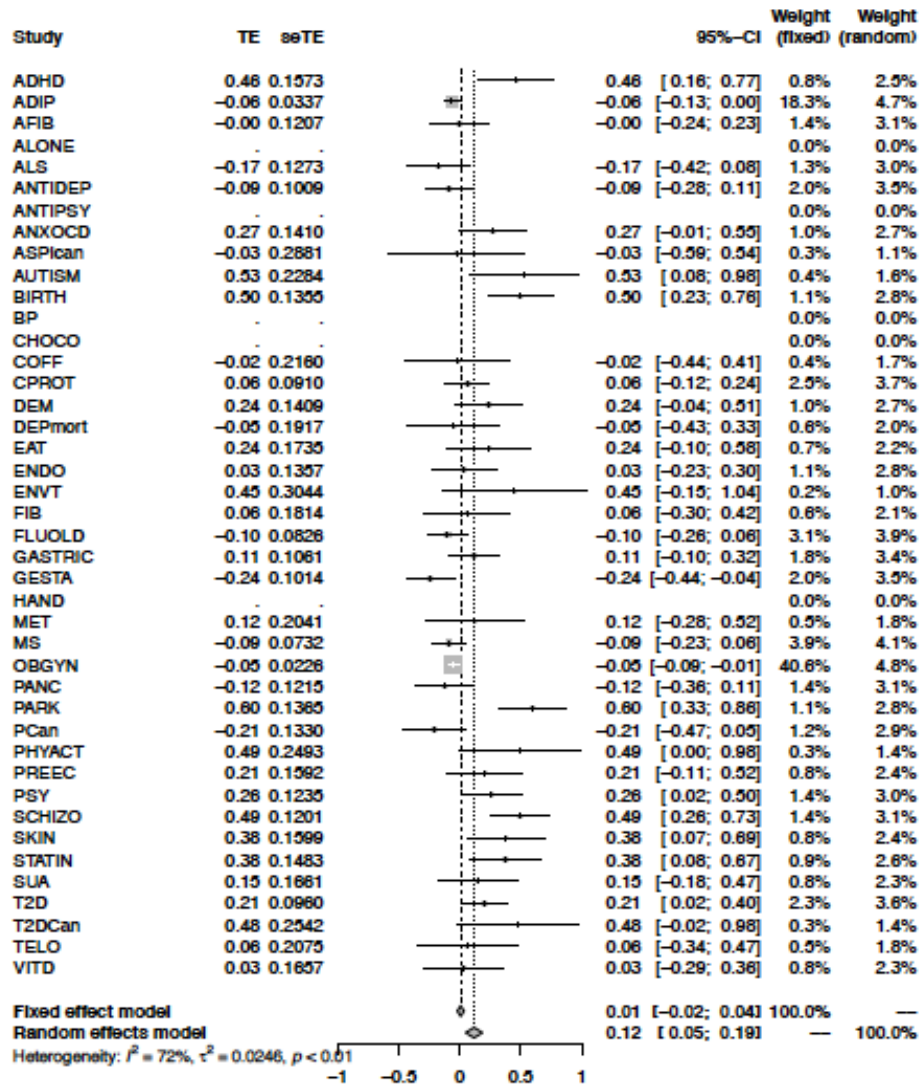
## 21) $I^2 > 50\%$ and excess of significance bias



## 22) $I^2 > 50\%$ and small study effects

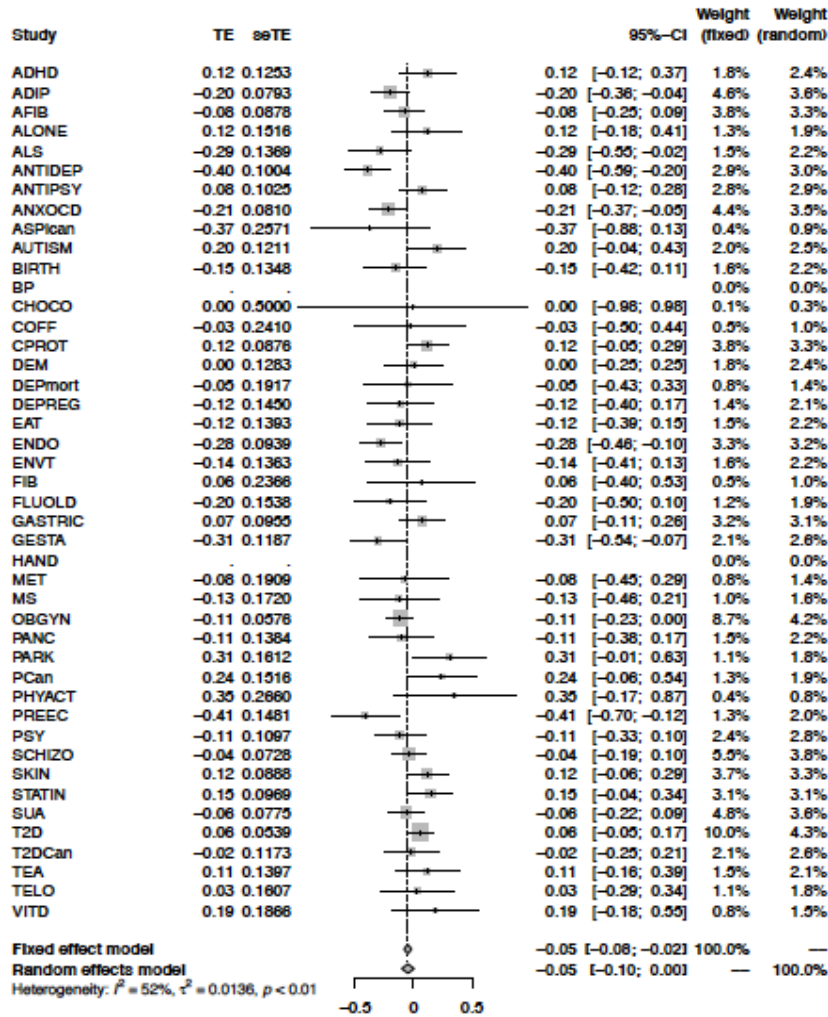


### 23) Largest studies and excess of significance bias

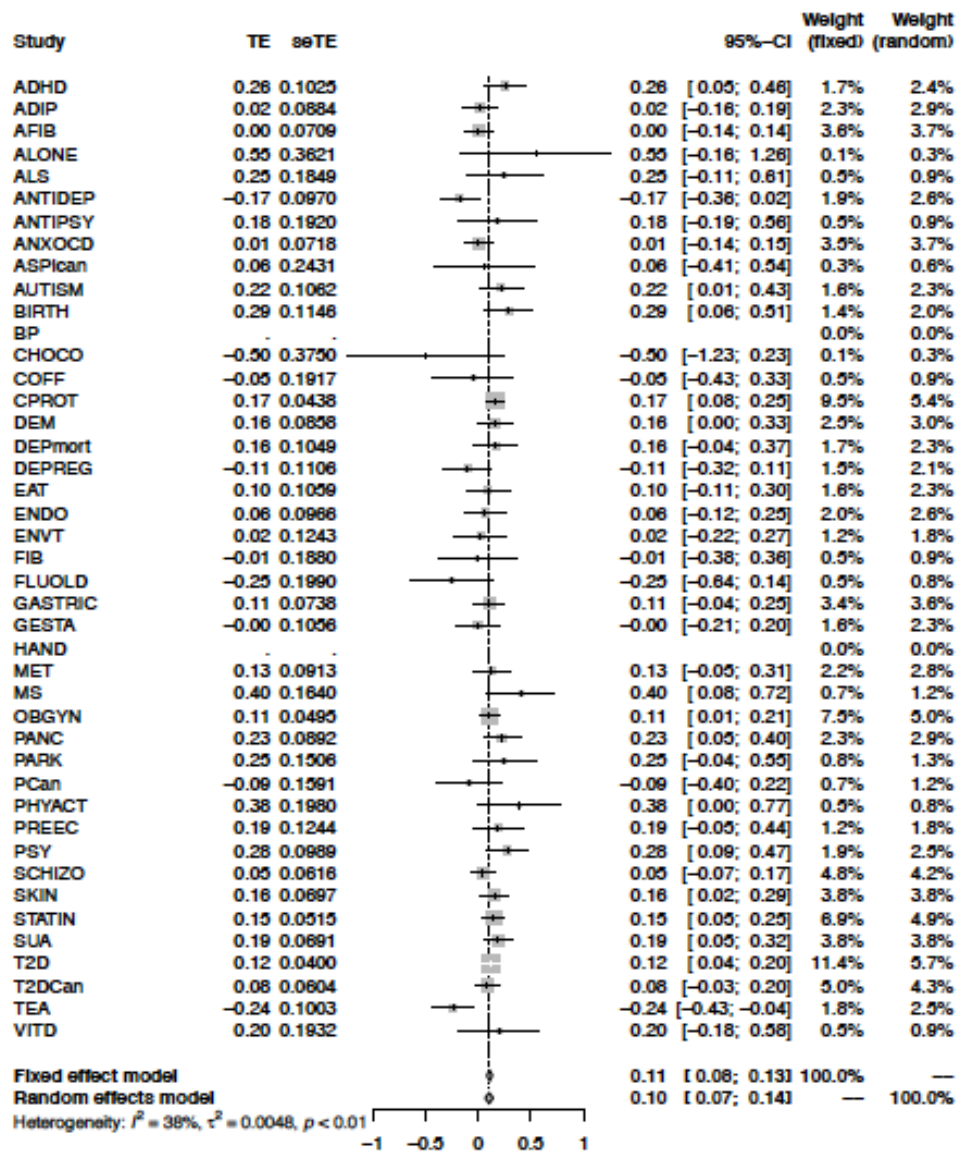




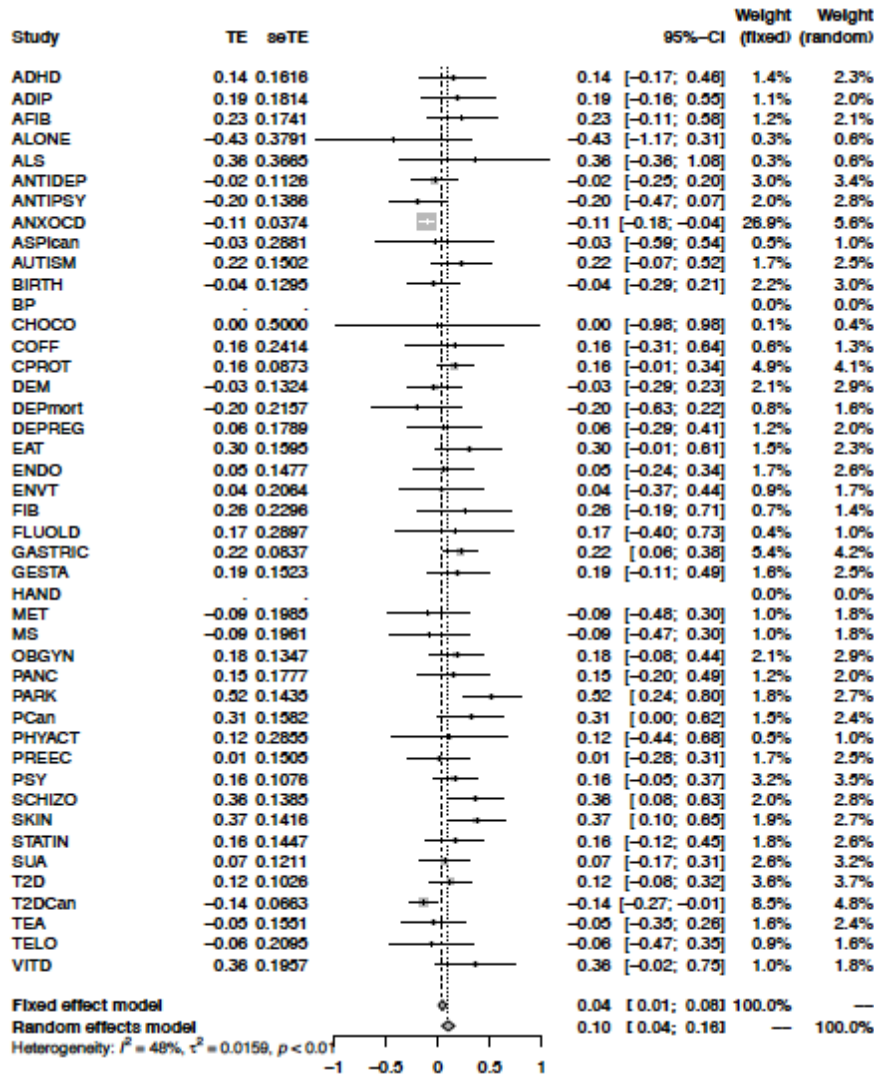
## 24) Largest studies and $I^2 > 50\%$



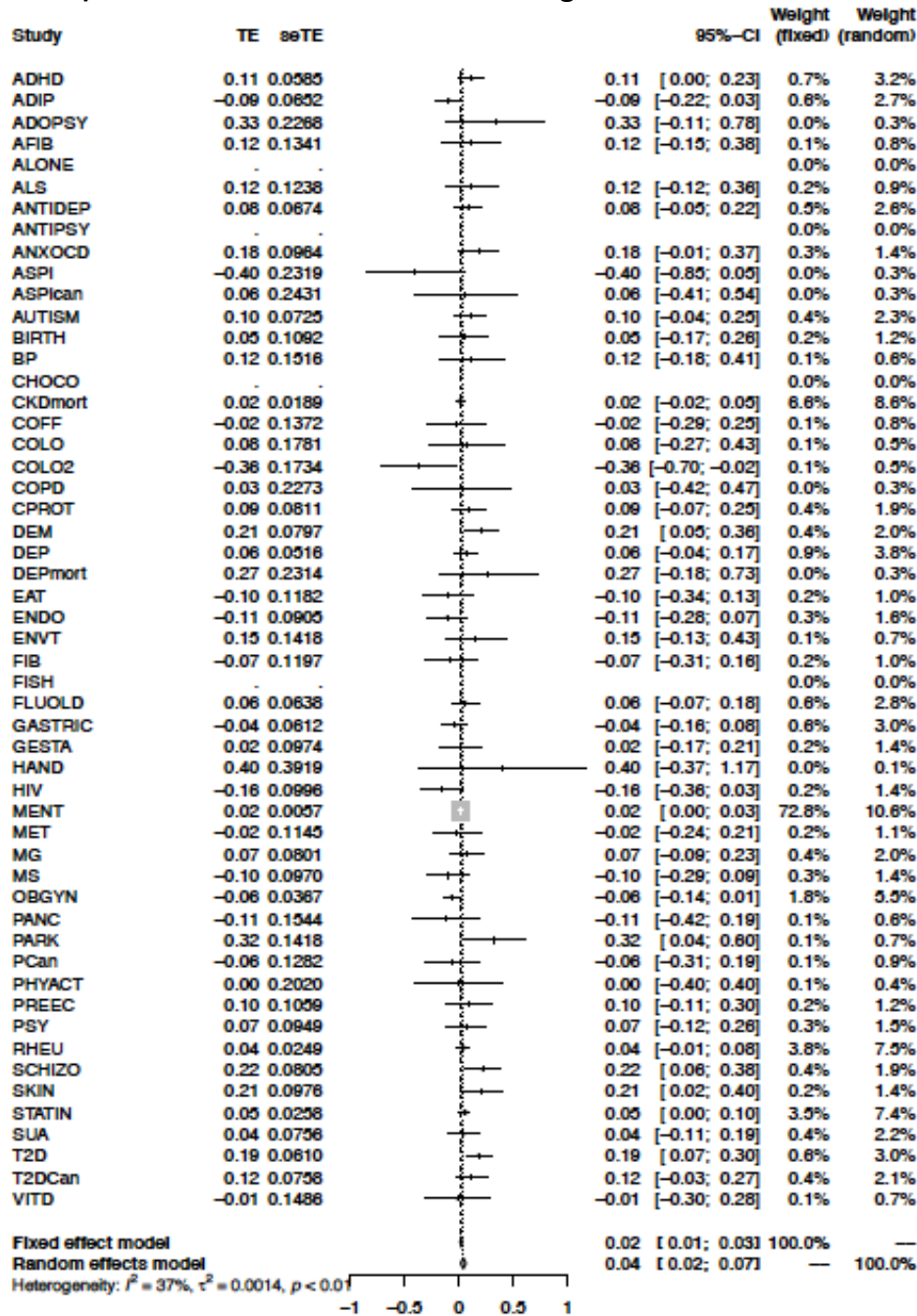
## 25) Largest studies and prediction intervals



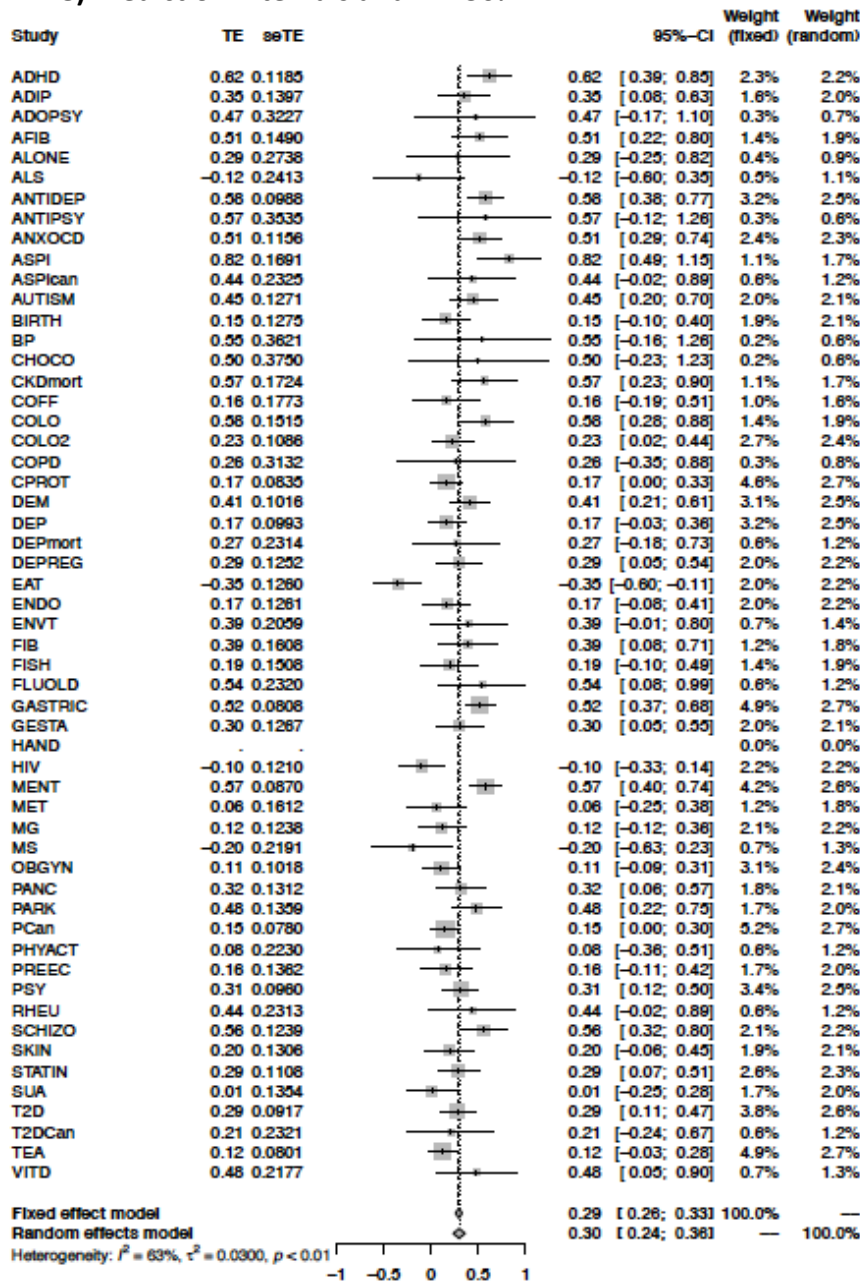
## 26) Largest studies and small study effects



## 27) Prediction intervals and excess of significance bias

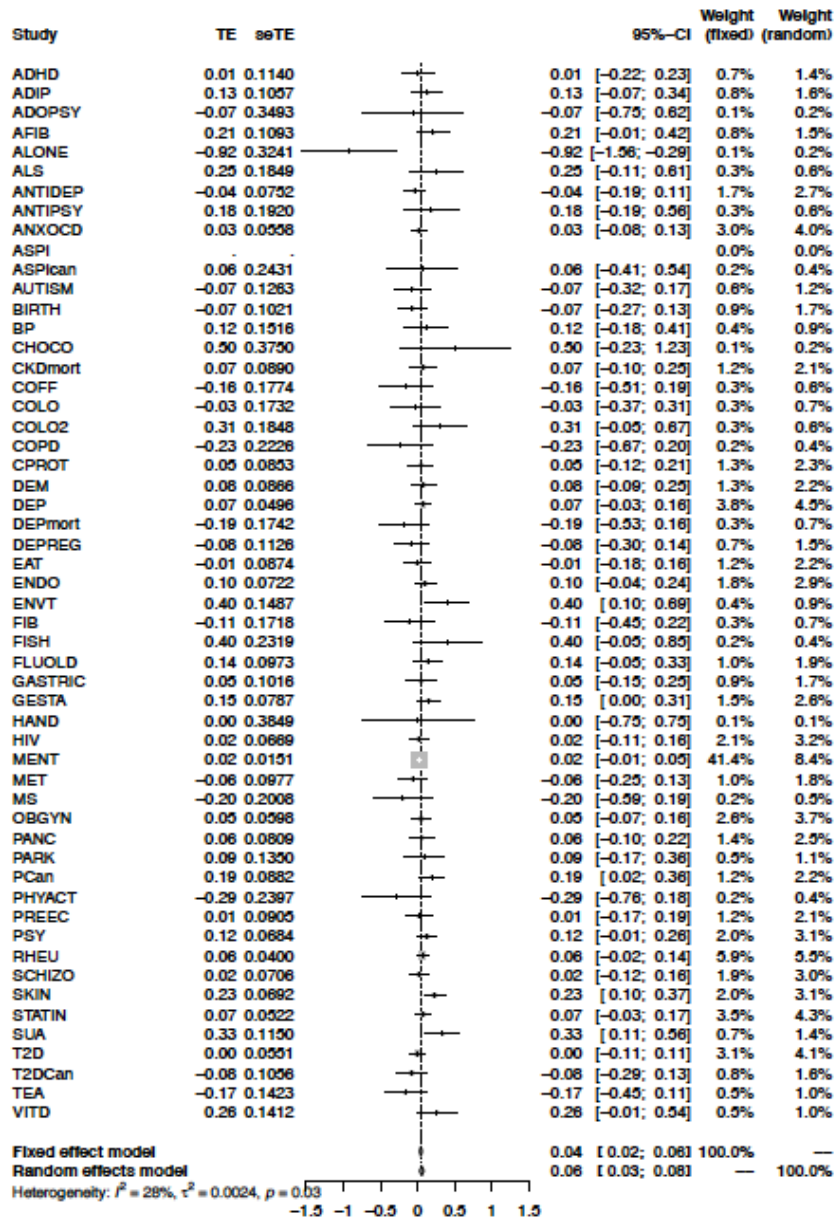


## 28) Prediction intervals and $I^2 > 50\%$



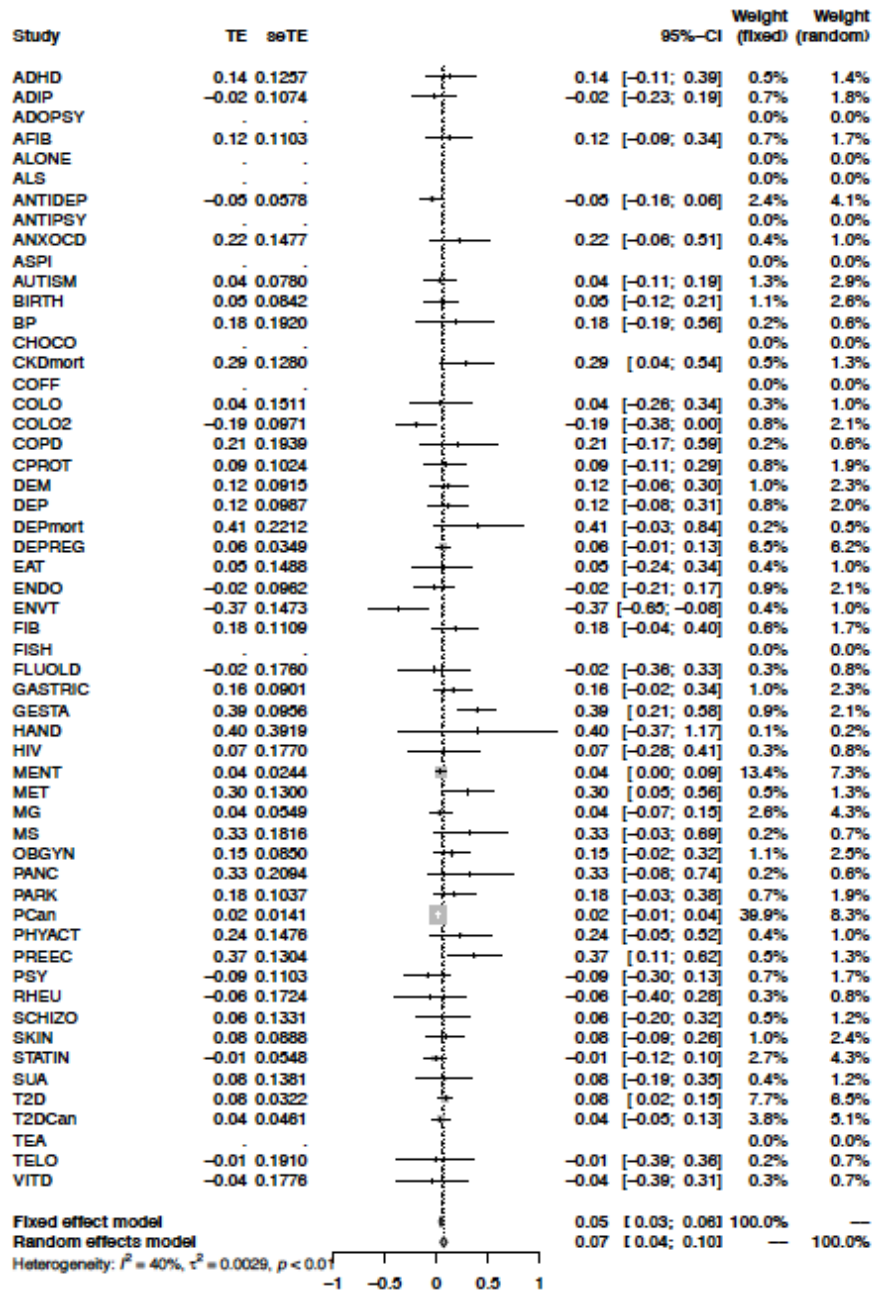


## 29) Prediction intervals and small study effects

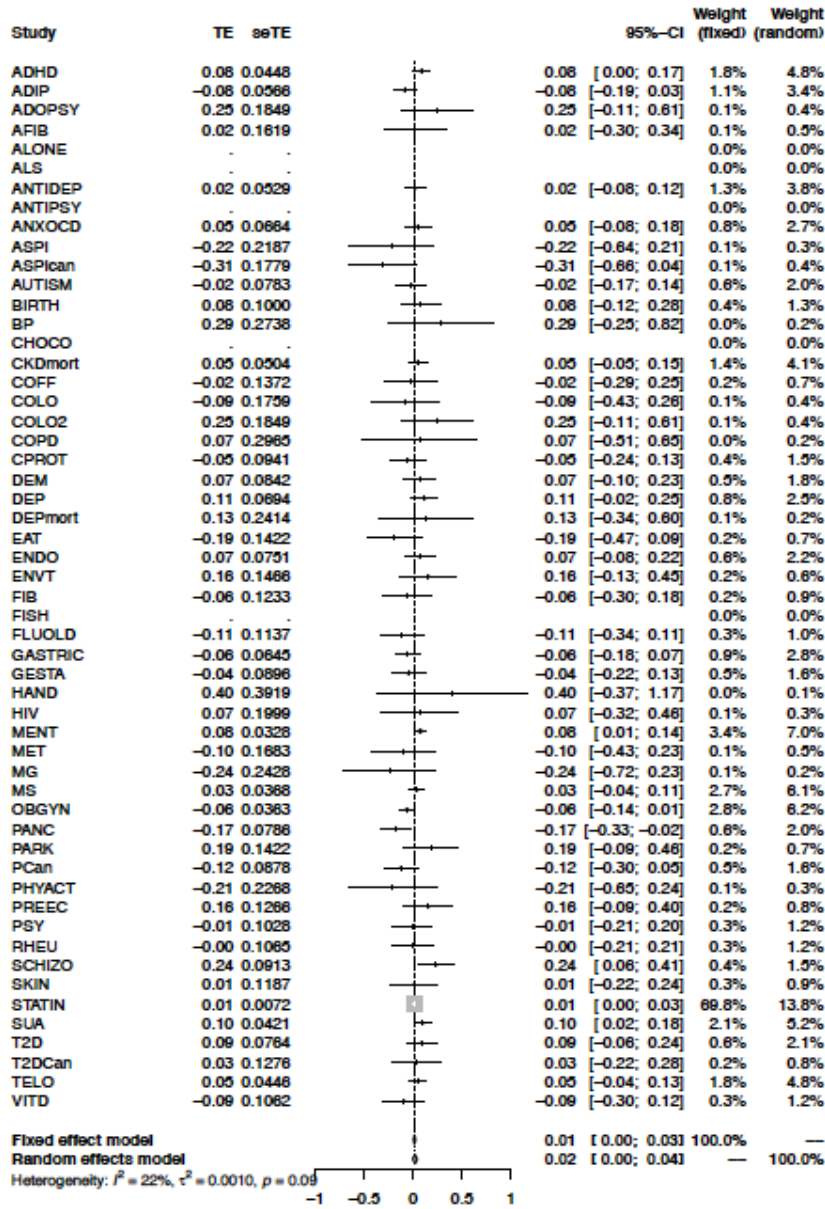




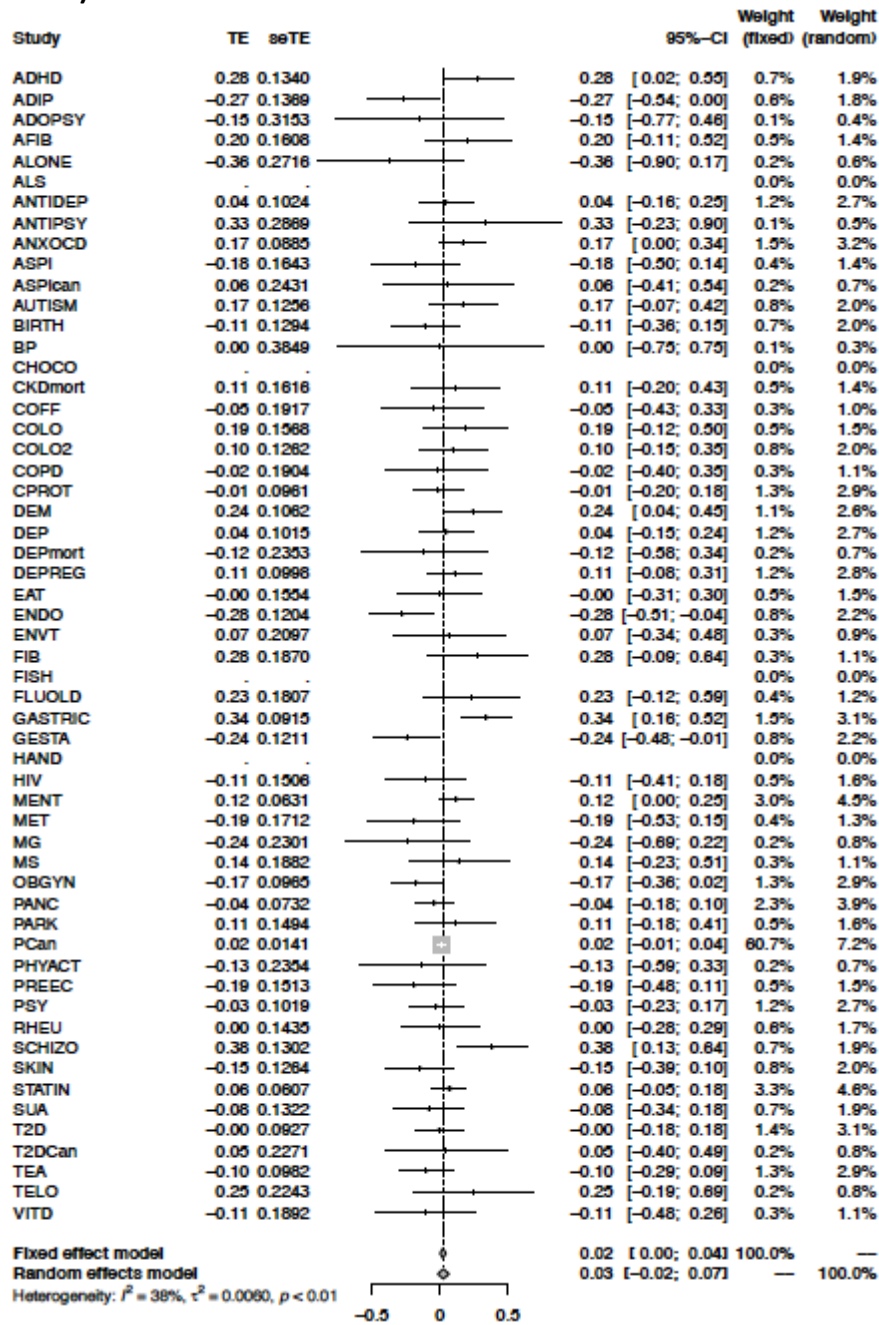
### 30) P-values < 10<sup>-6</sup> and number of cases



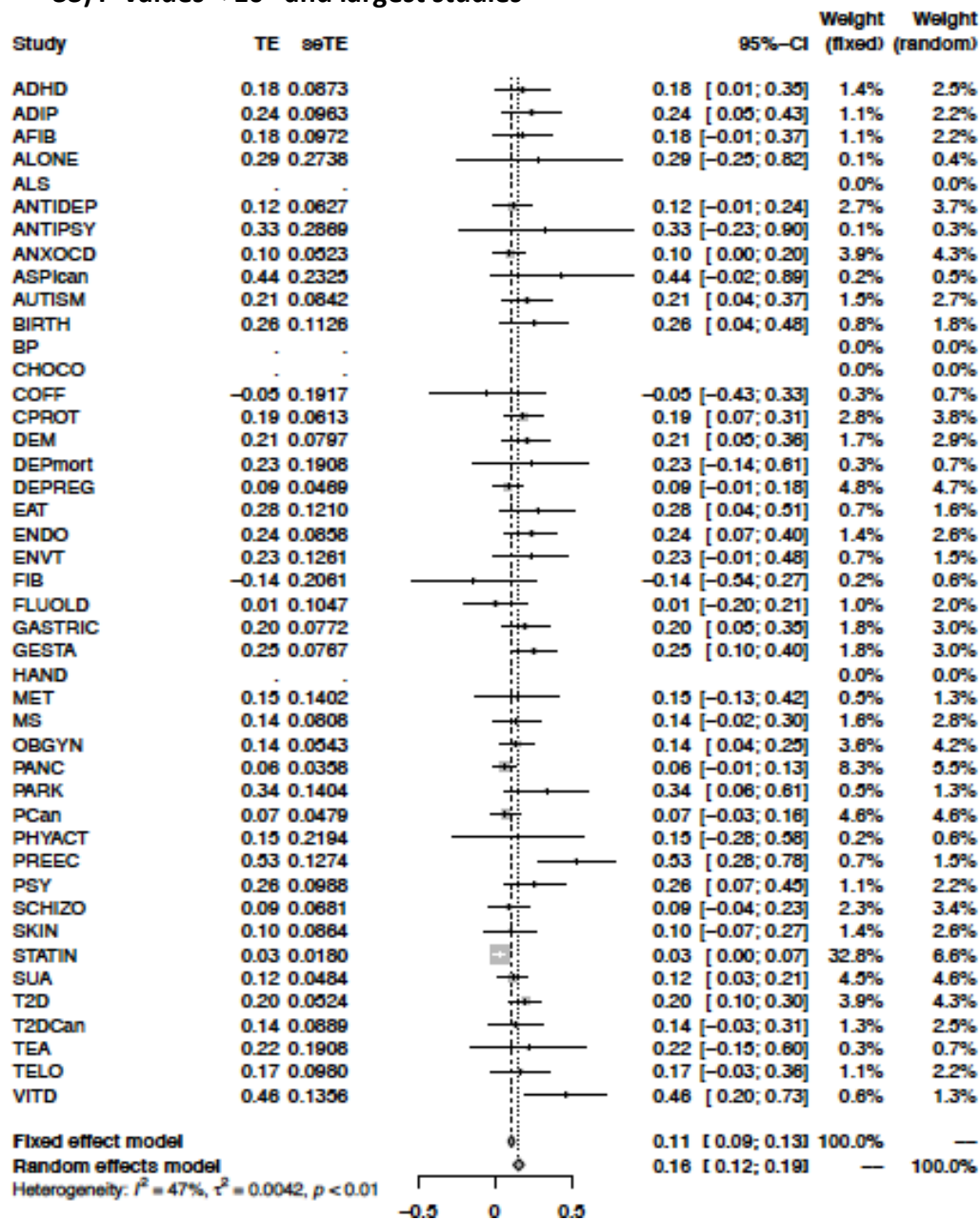
### 31) P-values < 10<sup>-6</sup> and excess of significance bias



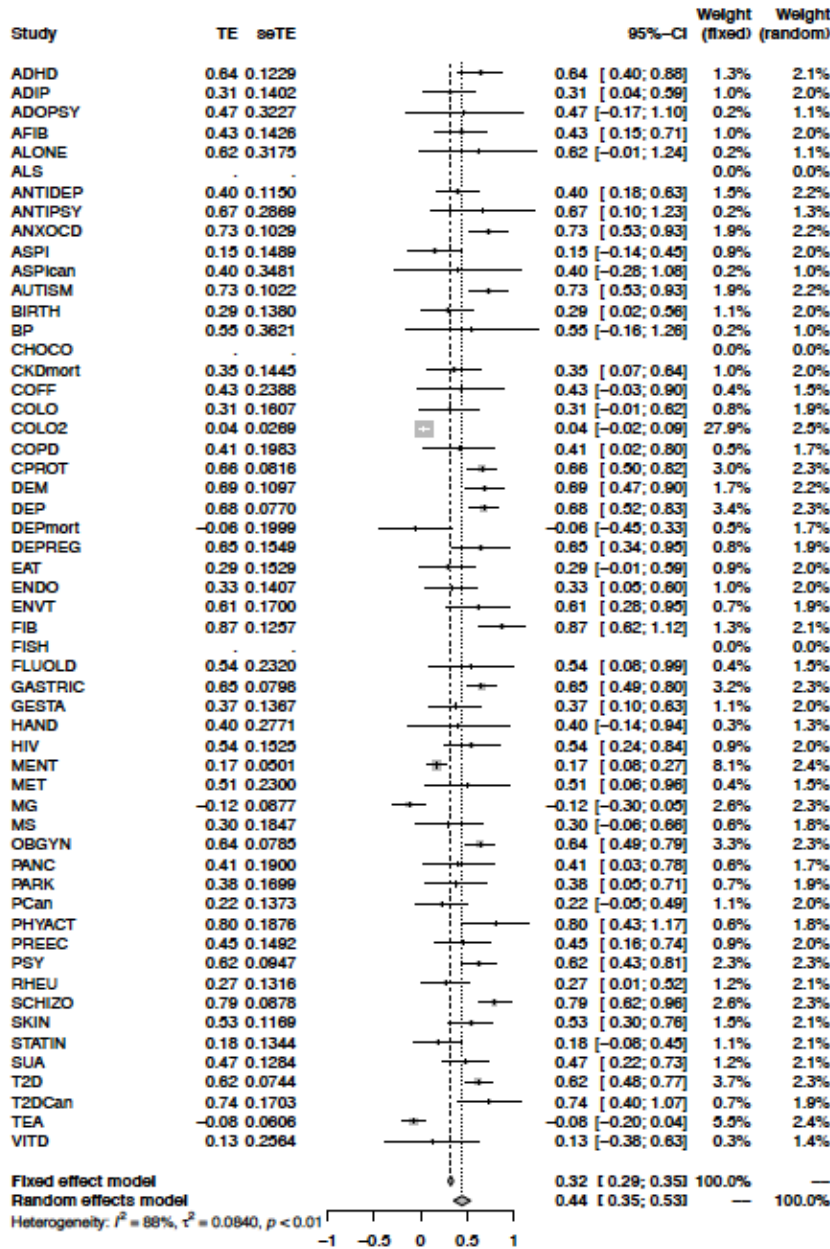
32) P-values < 10<sup>-6</sup> and I<sup>2</sup> > 50%



### 33) P-values < 10<sup>-6</sup> and largest studies

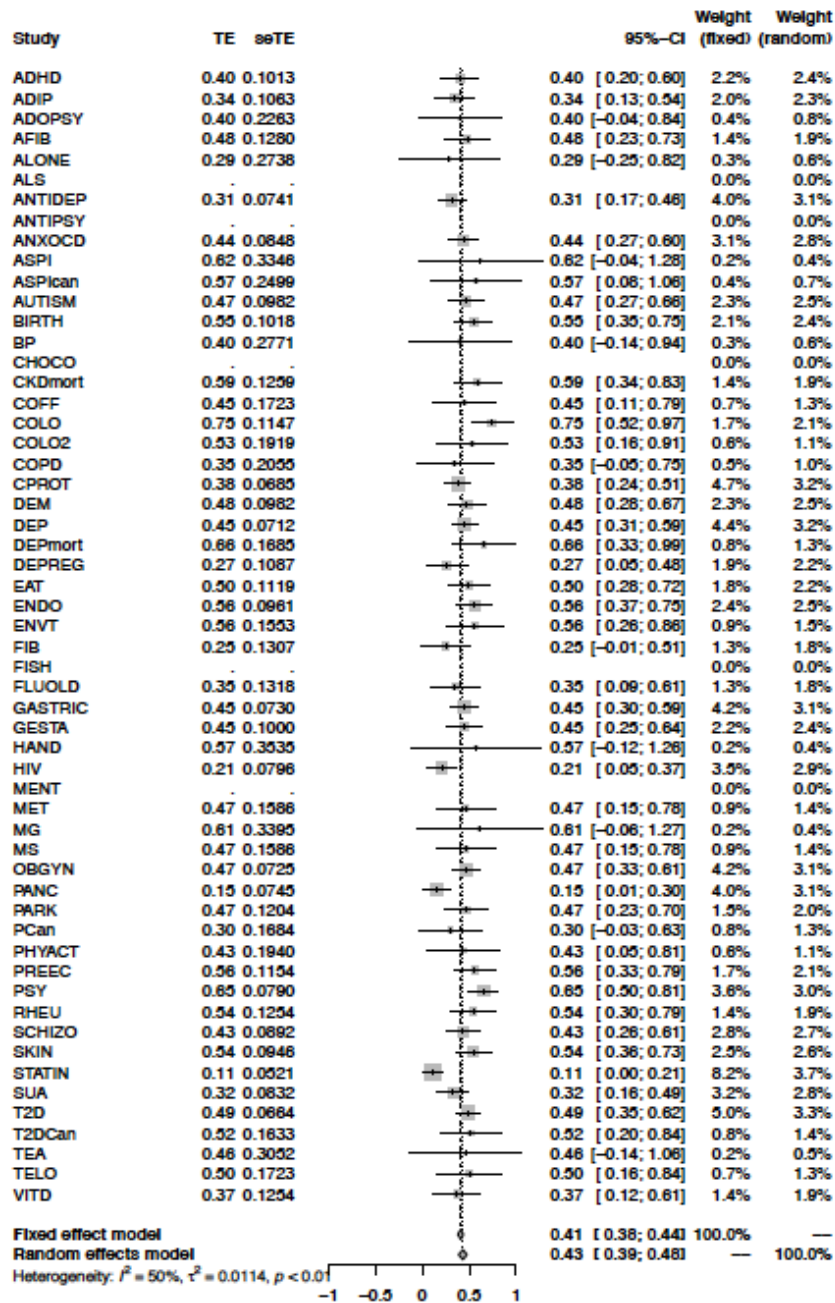


### 34) P-values < 10<sup>-6</sup> and prediction intervals



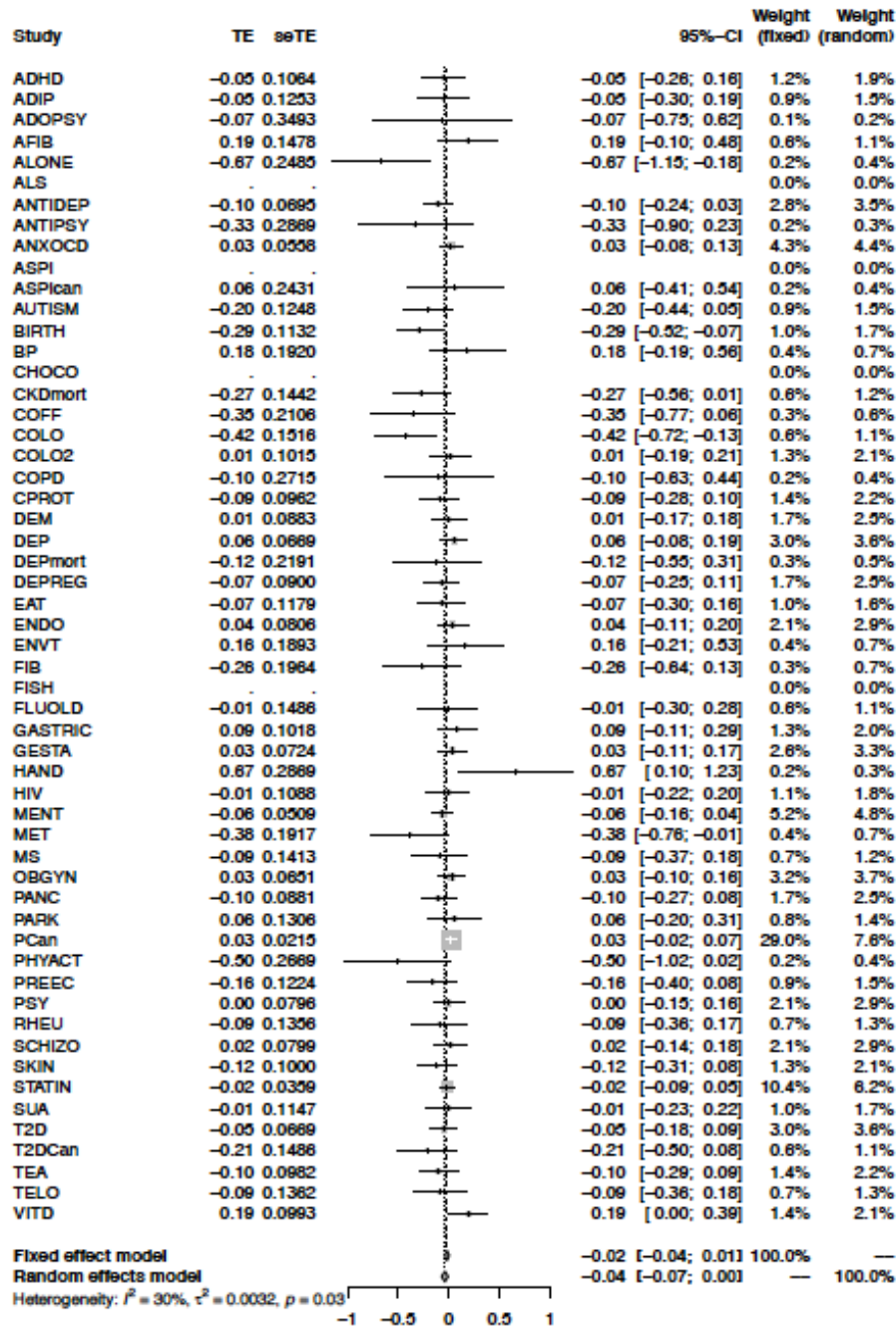


### 35) P-values < 10<sup>-6</sup> and p-values < 0.001

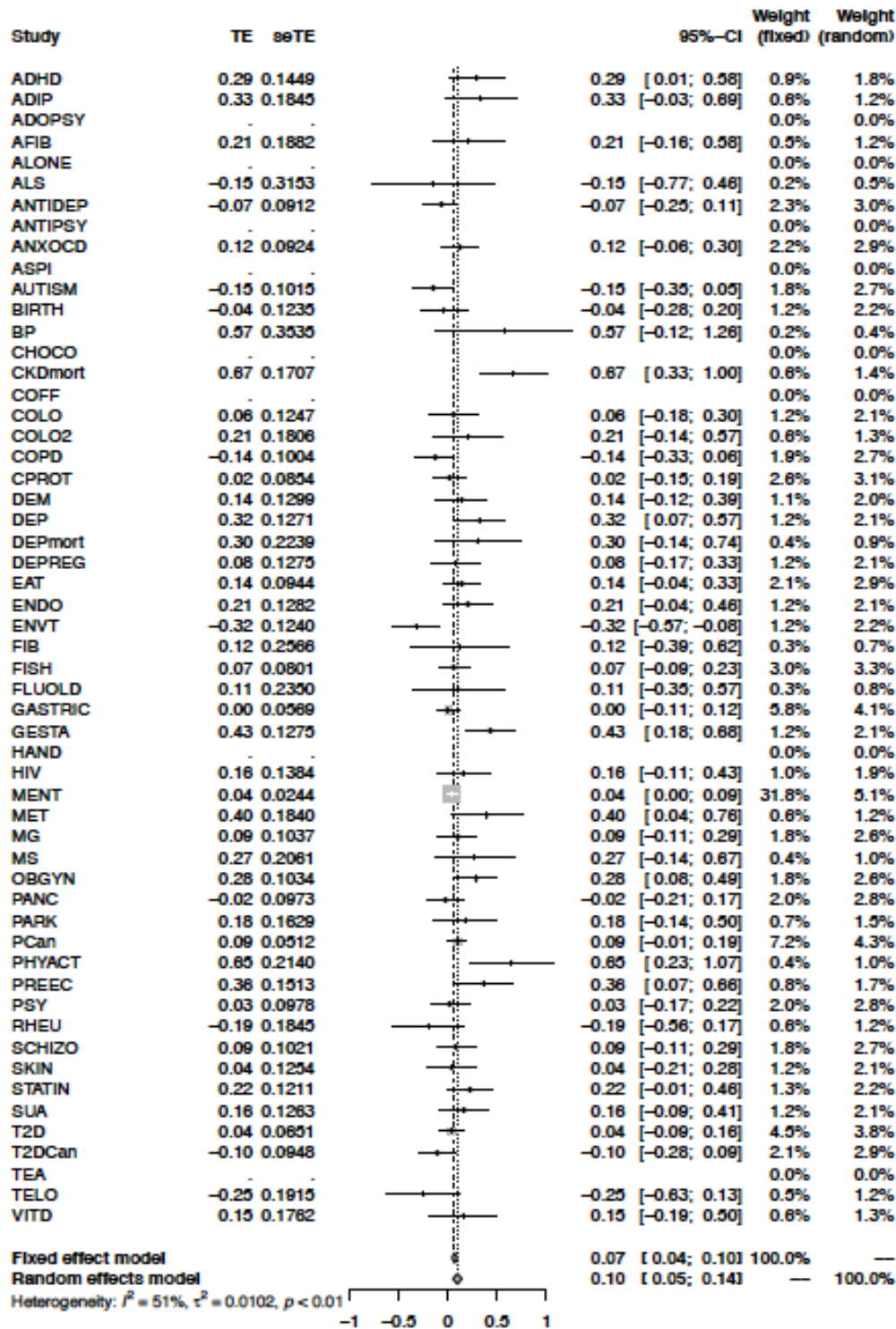




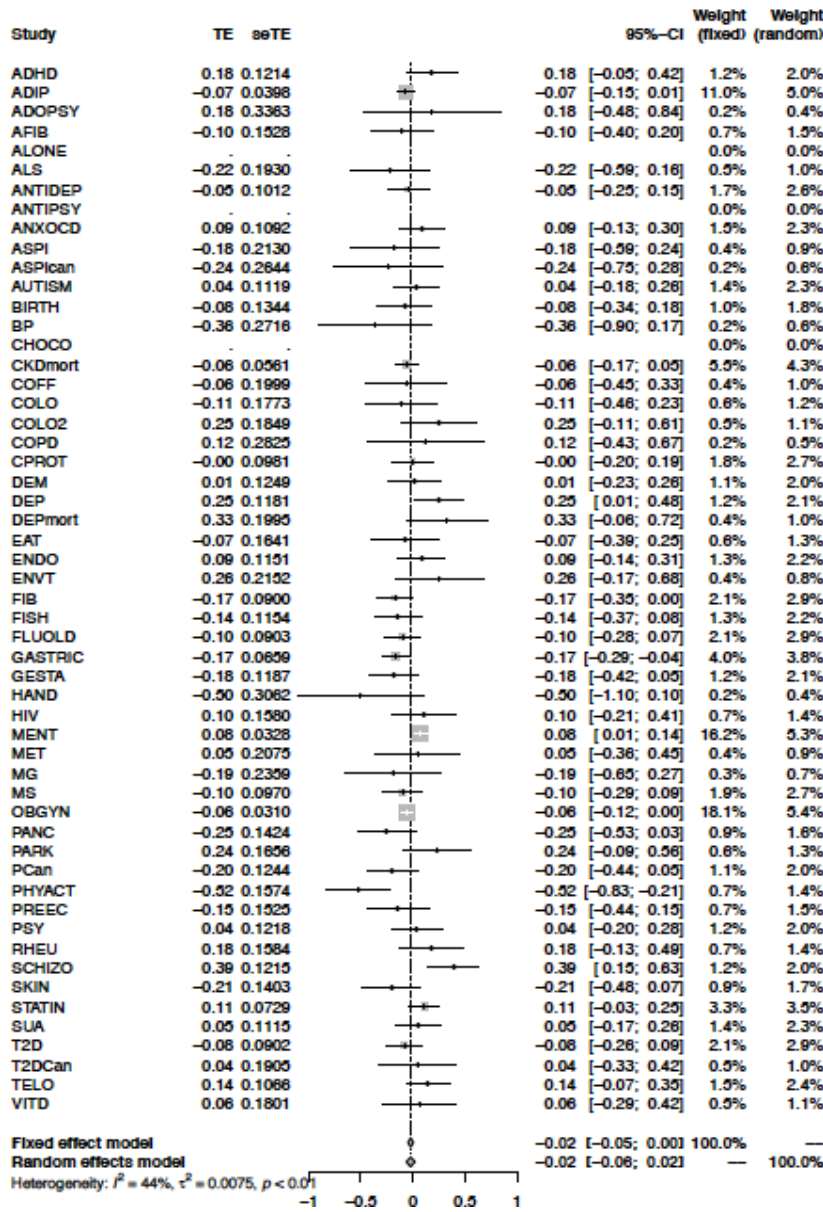
### 36) P-values < 10<sup>-6</sup> and small study effects



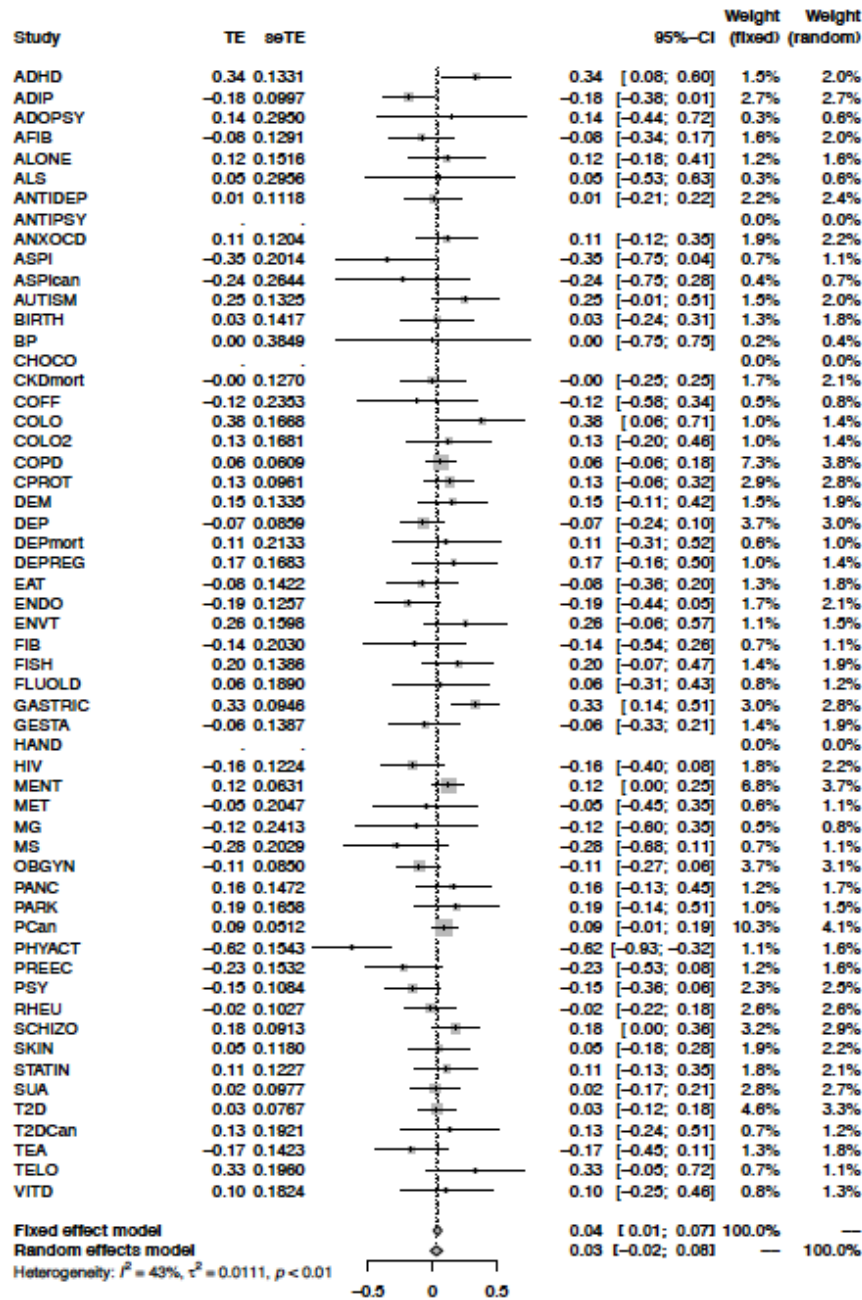
37) P-values < 0.001 and number of cases



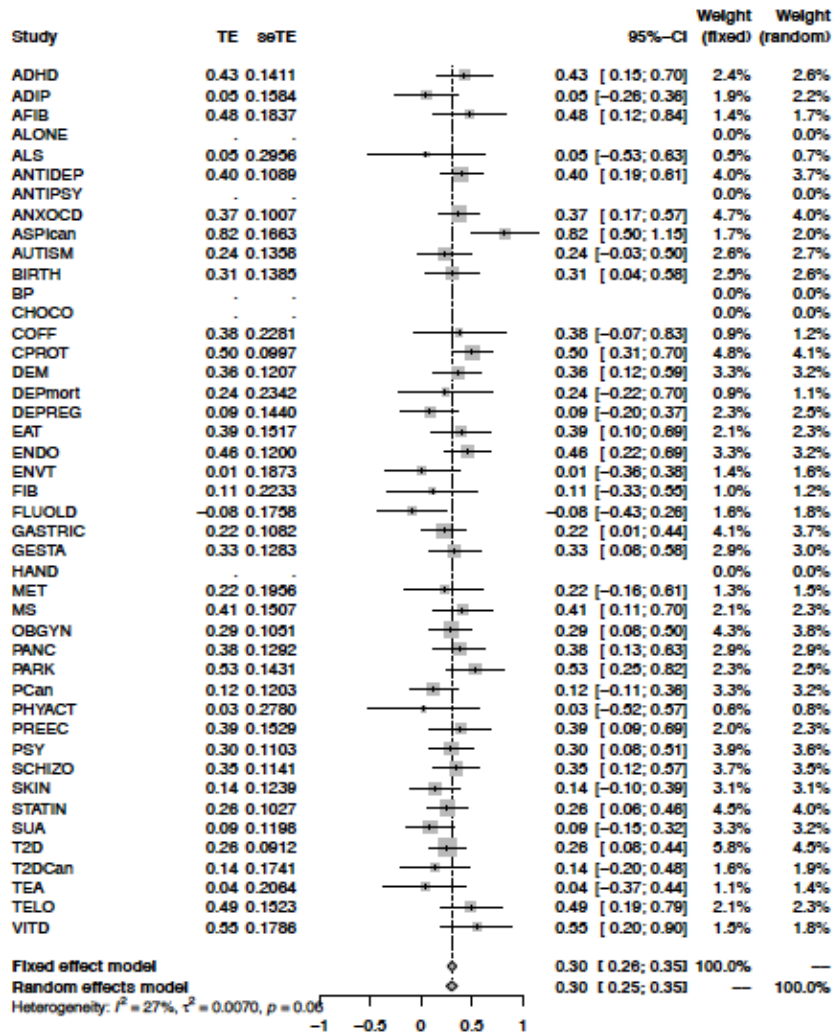
### 38) P-values < 0.001 and excess of significance bias



### 39) P-values < 0.001 and I<sup>2</sup> > 50%

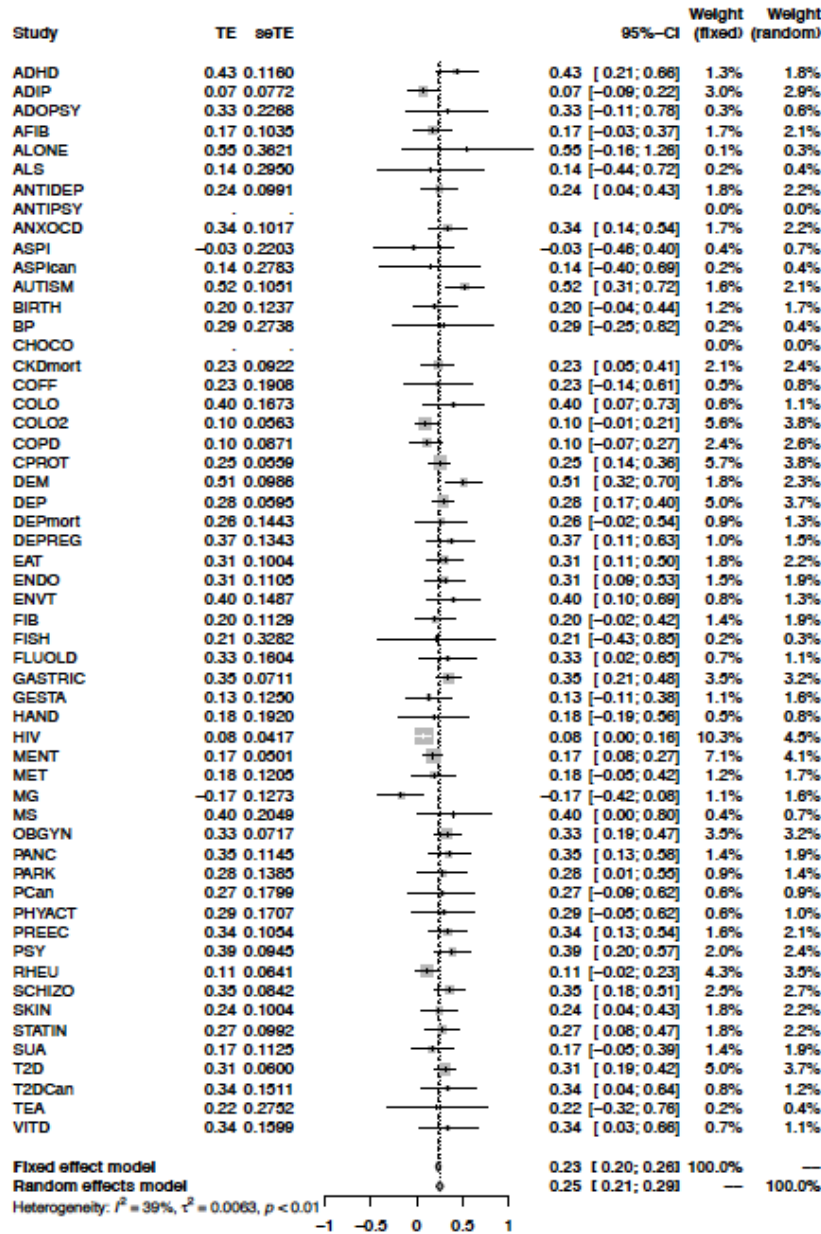


#### 40) P-values < 0.001 and largest studies



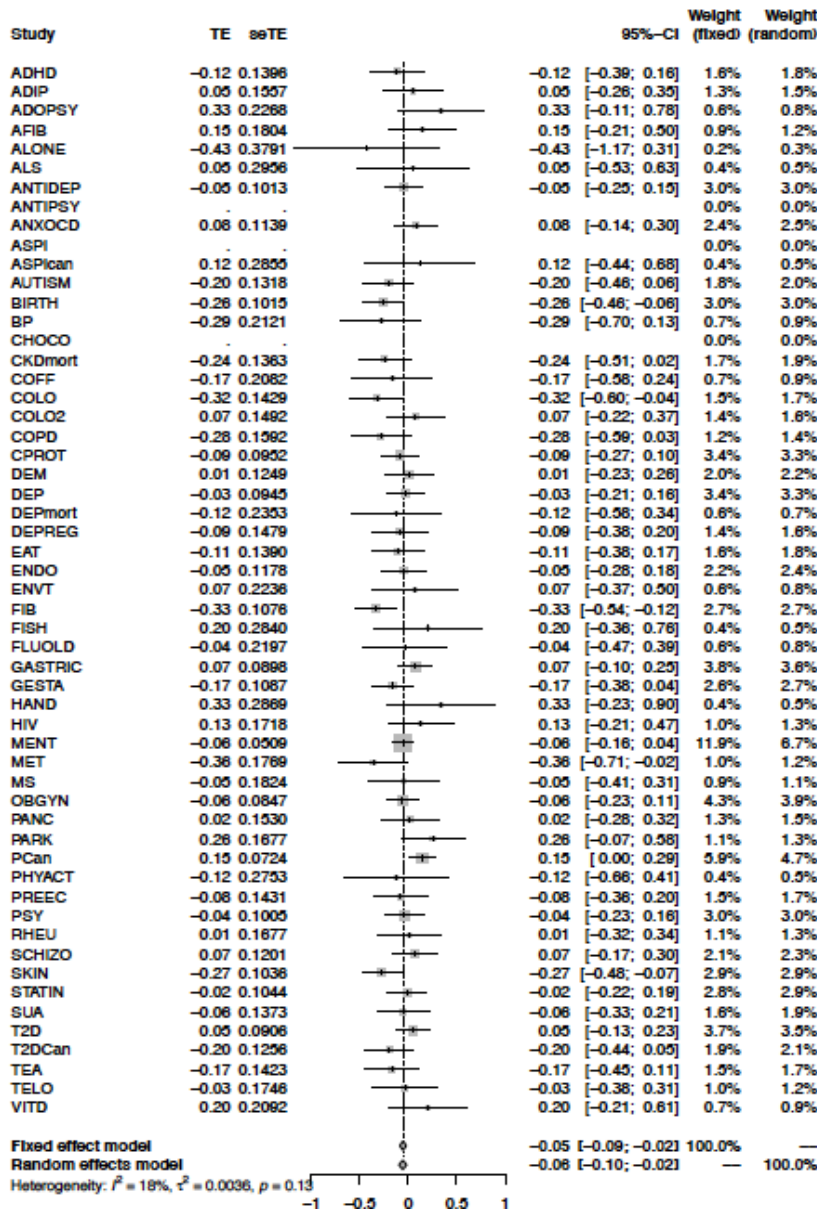


### 41) P-values < 0.001 and prediction intervals

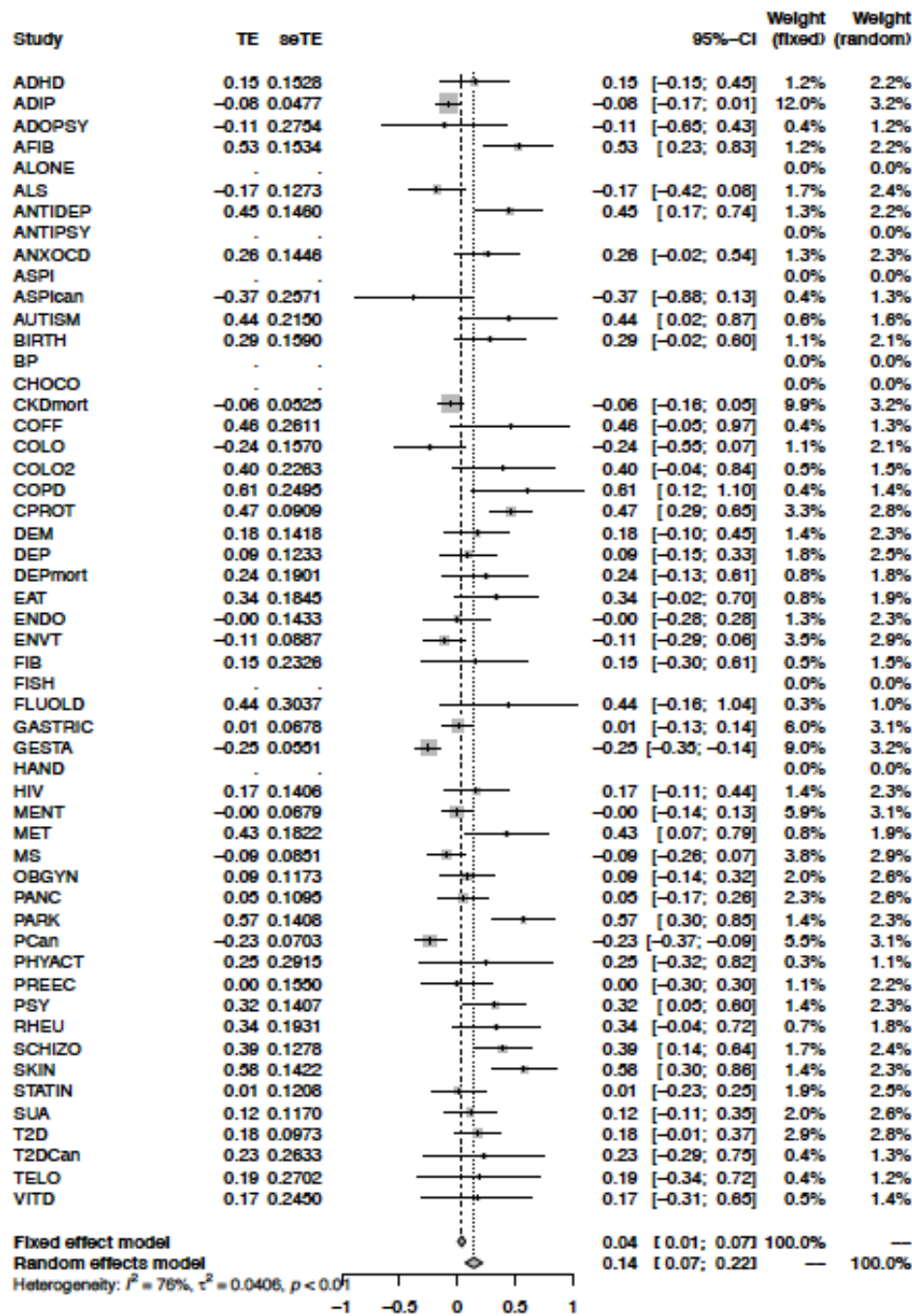




42) P-values < 0.001 and small study effects



### 43) Small study effects and excess of significance bias



ADHD: Risk factor for attention deficit hyperactivity disorder ; ADIP: Adiposity and cancer outcomes; ADOPSY: Risk and protective factors for mental disorders with onset in childhood/adolescence; AFIB: Environmental factors and serum biomarkers for atrial fibrillation; ALONE: Factors associated to loneliness; ALS: Risk factor for amyotrophic lateral sclerosis; ANTIDEP: Antidepressant and adverse events; ANTIPSY: Antipsychotics and life-threatening events; ANXOCD: Risk and protective factors for anxiety and obsessive compulsive disorders; ASPI: Low-dose aspirin and health outcomes; ASPIcan: Aspirin and cancer outcomes; AUTISM: Environmental risk factors and biomarkers for autism spectrum disorder; BIRTH: Birth weight and later life events; BP: Environmental risk factors for bipolar disorder; CHOCO: Chocolate and health outcomes; CKDmort: Chronic kidney disease and mortality; COFF: Coffee and cancer risk; COLO: Risk factors for colorectal cancer metastasis and recurrence; COLO2: Non-genetic biomarkers and colorectal cancer risk; COPD: Risk factors for chronic obstructive pulmonary disease; CPROT: C-reactive protein and health outcomes; DEM: Environmental risk factors for dementia; DEP: Risk factors for depression; DEPmort: Depression and mortality; DEPPREG: Antidepressants during pregnancy and neonatal outcomes; EAT: Risk factors for eating

*disorders; ENDO: Risk factors for endometrial cancer; ENVT: Environmental risk factors for obesity; FIB: Dietary Fiber and health outcomes; FISH: Fish and  $\omega$ -3 Fatty Acids consumptions and cancer outcomes; FLUOLD: Influenza vaccine in elderly and health outcomes; GASTRIC: Prognostic biomarkers for gastric cancer; GESTA: Risk factors for gestational diabetes; HAND: Handgrip strength and health outcomes; HIV: Human immunodeficiency virus infections and health outcomes; MENT: Peripheral biomarkers and major mental disorders; MET: Metformin and cancer outcomes; MG: Magnesium and health outcomes; MS: Environmental risk factors for multiple sclerosis; OBGYN: Obesity and gynecology/obstetric outcomes; PANC: Prognostic biomarkers for pancreatic ductal adenocarcinoma; PARK: Environmental risk factors and Parkinson's; PCan: Risk and protective factors for prostate cancer; PHYACT: Physical activity and cancer outcomes; PHYAF: Physical activity and atrial fibrillation outcomes; PREEC: Non-genetic risk factors for pre-eclampsia; PSY: Risk and protective factors for psychosis; RHEU: Environmental risk factors for rheumatic diseases; SCHIZO: Risk factors and peripheral biomarkers for schizophrenia spectrum disorders; SKIN: Non-genetic risk factors for skin cancer; STATIN: Statins and multiple non-cardiovascular outcomes; SUA: Serum uric acid and health outcomes; T2D: Risk factors for type 2 diabetes mellitus; T2DCan: Type 2 diabetes mellitus and cancer; TEA: Tea consumption and cancer; TELO: Telomere length and health outcomes; VITD: Vitamin D and health outcome*