Table S1. Methodological quality of the studies with (poly)phenols-rich supplementation assessed with the PEDro scale.

	Items	Antom et al. [48]	Huhn et al. [27]	Kritz-Silverstein et al. [49]	Mastroiacovo et al. [19]	Mix & Crews. [50]	Bowtell et al. [54]	Witte et al. [55]	Francis et al. [28]	Massee et al. [23]	Dietz et al. [51]	Haskell Ramsay et al. [52]	Karabay et al. [53]	Decroix et al. [56]	Sadowska-Krępa et al. [57]	Sadowska-Krępa et al. [58]
1	Eligibility criteria were specified	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
2	Subjects were randomly allocated to groups (in a crossover study, subjects were randomly allocated an order in which treatments were received)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3	Allocation was concealed	-	+	+	+	+	+	+	+	-	+	+	+	+	+	+
4	The groups were similar at baseline regarding the most important prognostic indicators	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
5	There was blinding of all subjects	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6	There was blinding of all therapists who administered the therapy	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+
7	There was blinding of all assessors who measured at least one key outcome	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

8	Measures of at least one key outcome were obtained from more than 85% of the subjects initially allocated to groups	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
9	All subjects for whom outcome measures were available received the treatment or control condition as allocated or, where this was not the case, data for at least one key outcome was analysed by "intention to treat"	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10	The results of between-group statistical comparisons are reported for at least one key outcome	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
11	The study provides both point measures and measures of variability for at least one key outcome	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	Total score	8	9	9	9	9	9	9	9	7	9	9	9	9	9	9

Table S2. Meta-regression for gender, phenolic dose and nature of phenolic compound to predict the effect of (poly) phenols-rich supplementation on psychomotor functions.

Variables	Psychomotor functions					
Decimal	**Coefficient**	**SE**	**95% lower CI**	**95% upper CI**	**Z-value**	**P value**
Gender	-0.02	0.008	-0.036	0.004	-2.48	0.013
Phenolic dose	0.001	0.001	-0.001	0.002	-0.75	0.453
Categorical	**Q**		**df**		**P value**	
Nature of phenolic compound	7.62		6		0.267	

Abbreviations: SE: standard error, CI: confidence interval.

Table S3. Meta-regression for gender, phenolic dose and nature of phenolic compound to predict the effect of (poly) phenols-rich supplementation on BDNF blood concentrations.

Variables	BDNF					
Decimal	**Coefficient**	**SE**	**95% lower CI**	**95% upper CI**	**Z-value**	**P value**
Gender	0.001	0.028	–0.054	0.055	0.02	0.982
Phenolic dose	0.004	0.002	–0.001	0.008	1.68	0.093
Categorical	**Q**		**df**		**P value**	
Nature of phenolic compound	NA					

Abbreviations: NA: not applicable, SE: standard error, BDNF: Brain-Derived Neurotrophic Factor, CI: confidence interval.

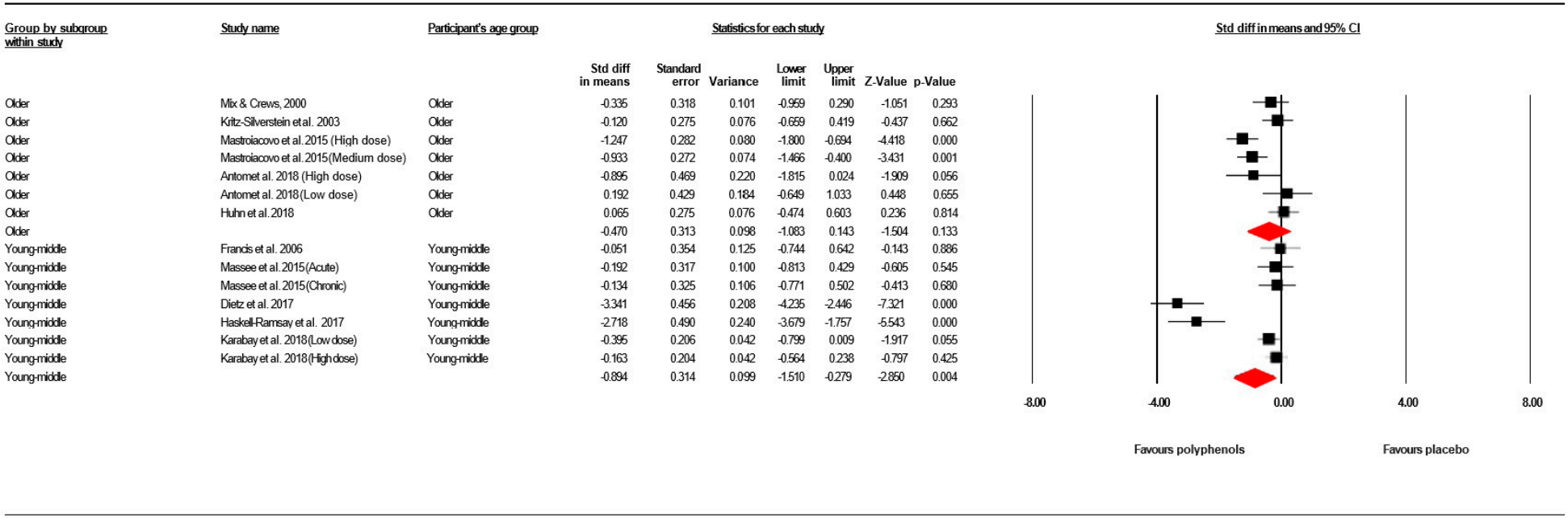


Figure S1. Plot of studies investigating the effect of (poly)phenols-rich supplementation on psychomotor function in old- and young/middle-aged adults.

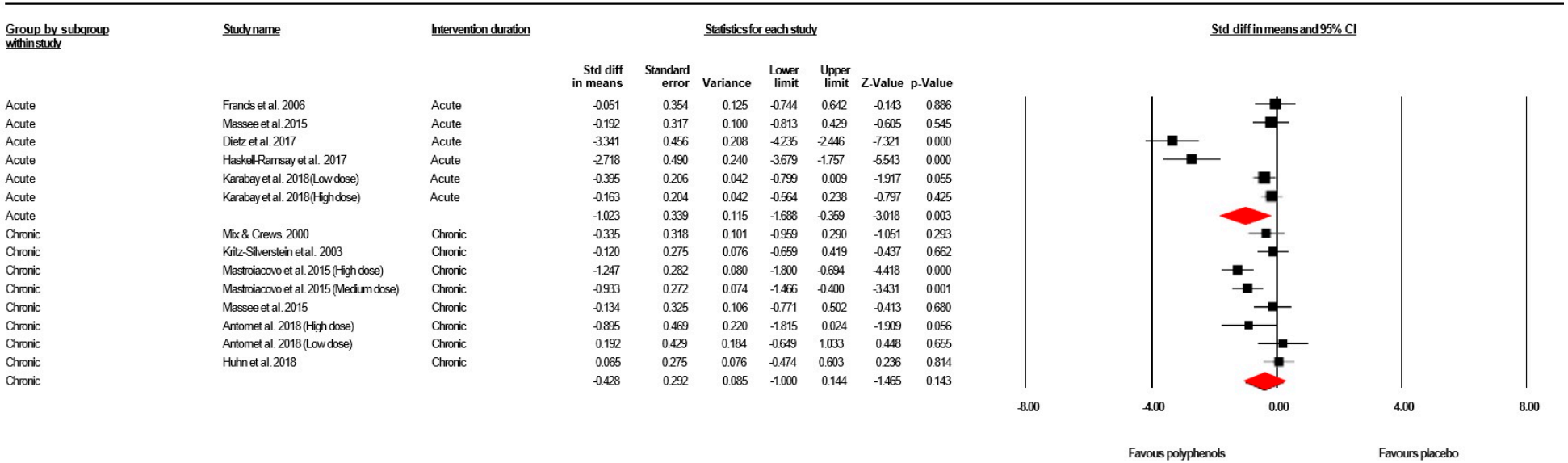


Figure S2. Plot of studies investigating the acute and chronic effect of (poly) phenols-rich supplementation on psychomotor function.

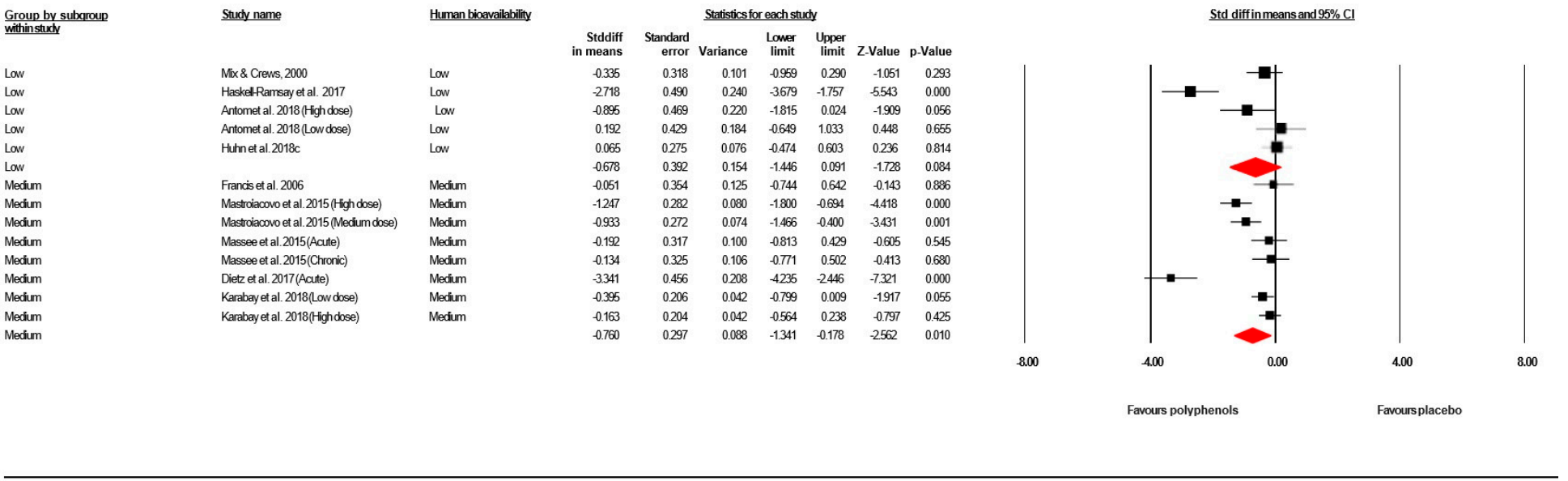


Figure S3. Plot of studies investigating the effect of (poly) phenols-rich supplementation with low and medium human bioavailability on psychomotor function.

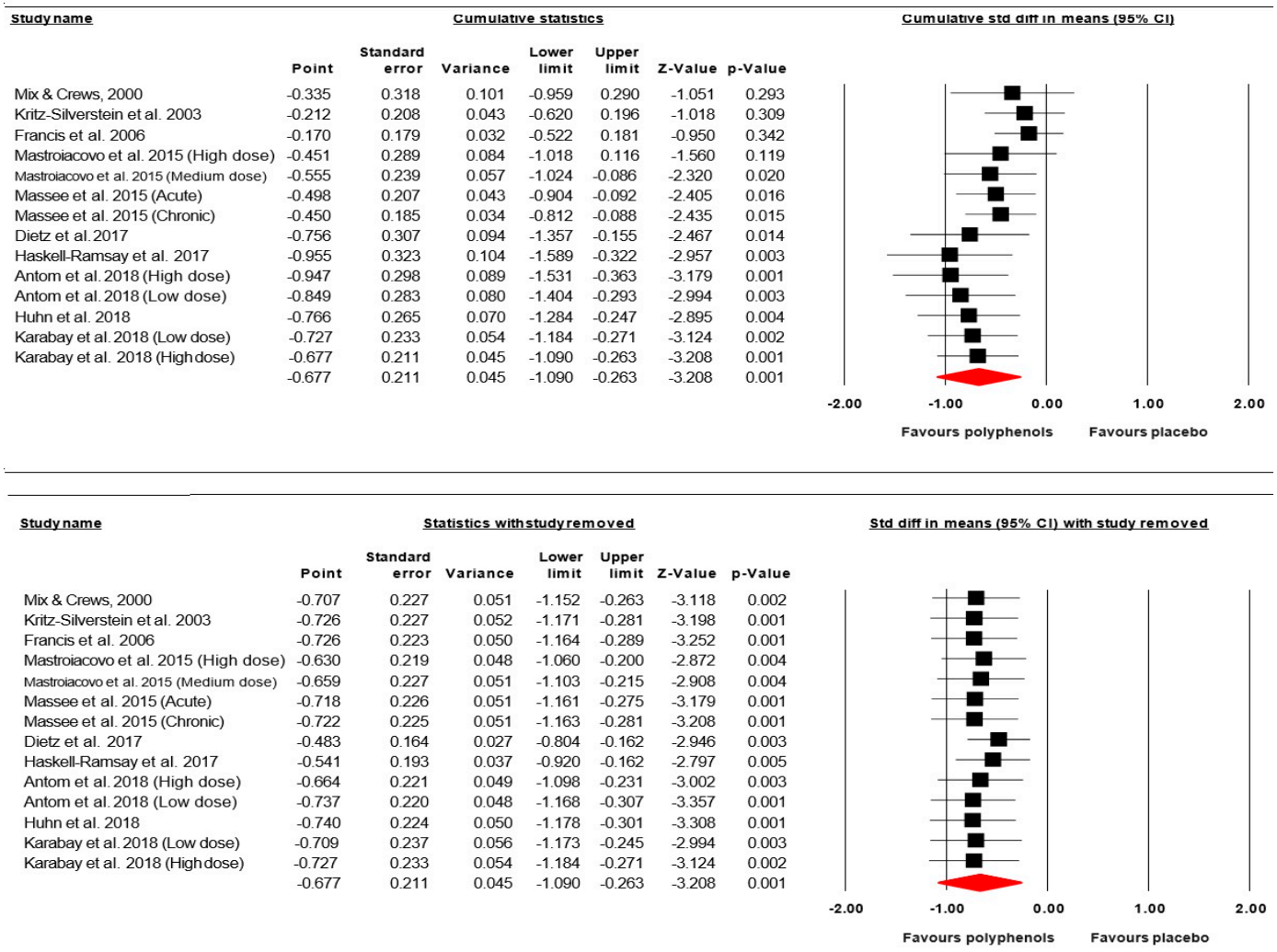


Figure S4. Cumulative statistics and statistics with study removed for studies investigating the effect of (poly)phenols-rich supplementation on psychomotor functions.

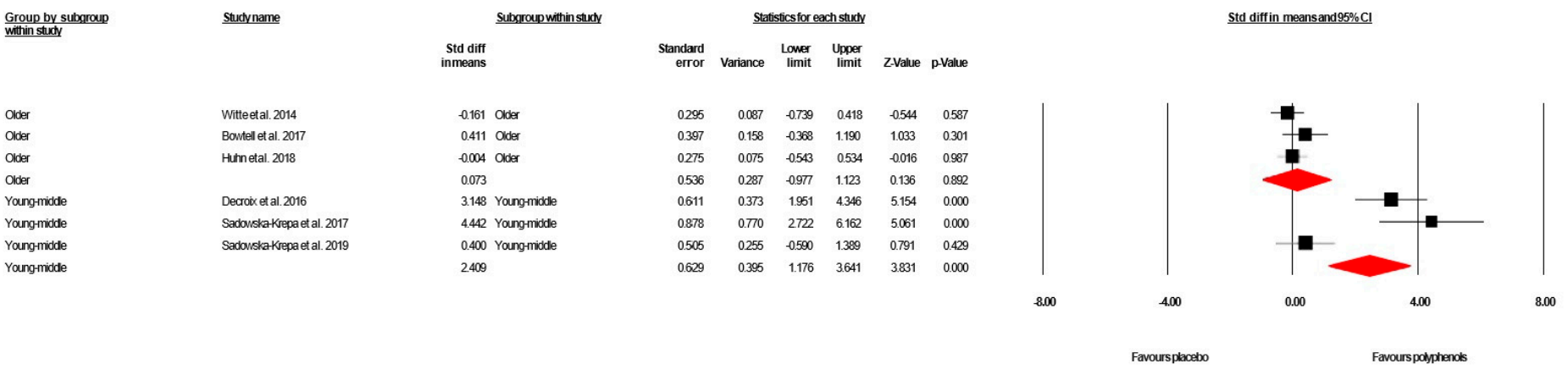


Figure S5. Plot of studies investigating the effect of (poly) phenols-rich supplementation on BDNF in old- and young/middle-aged adults.

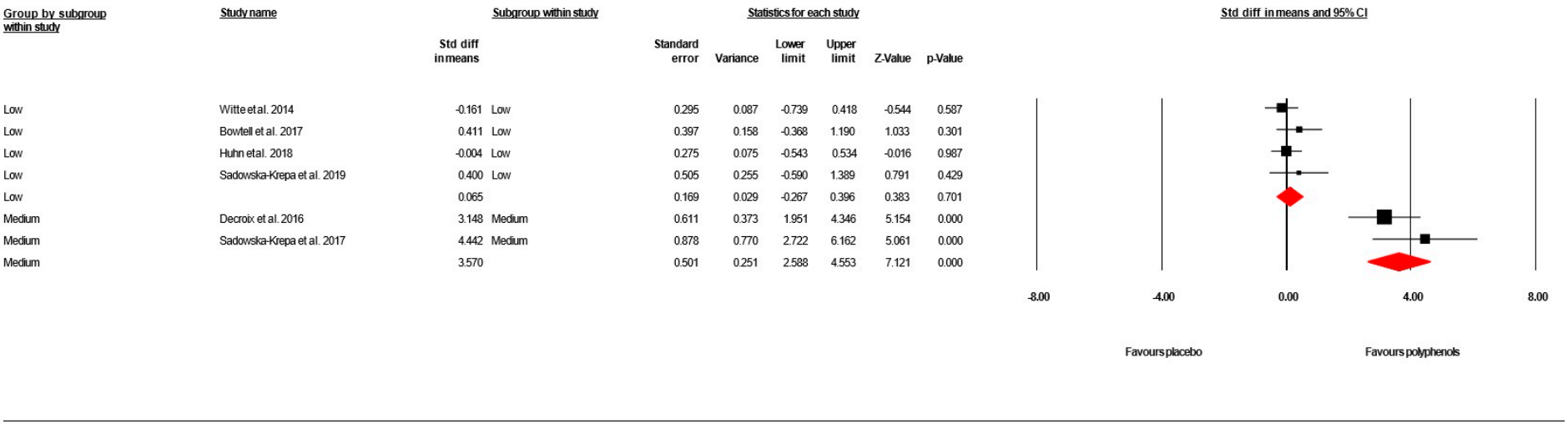
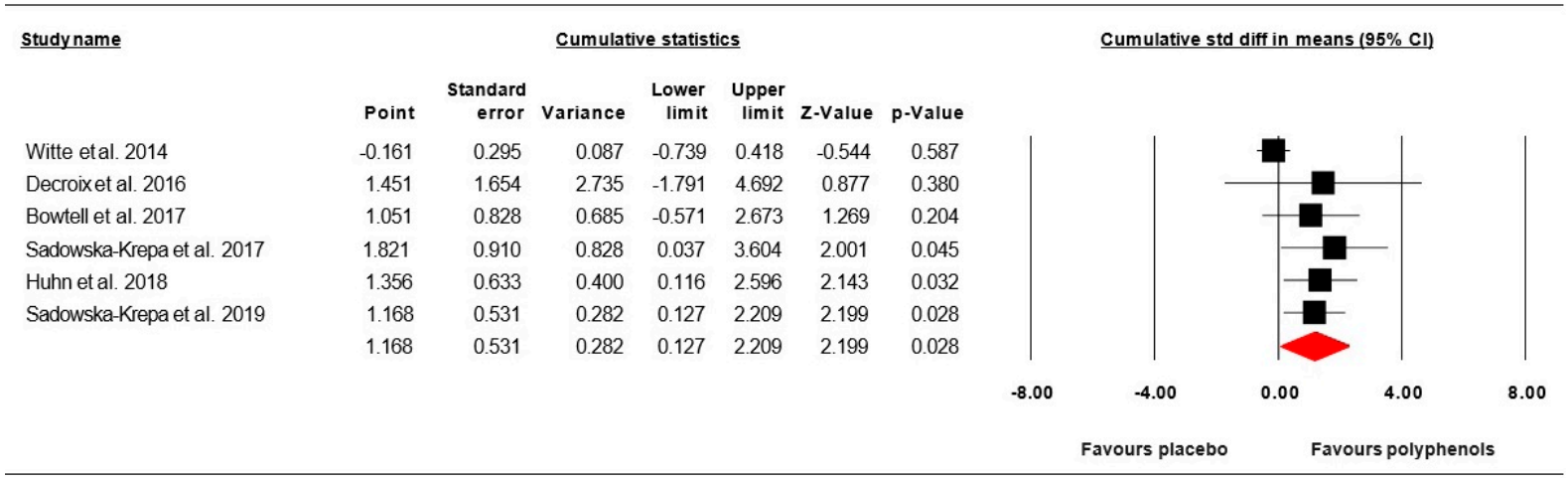


Figure S6. Plot of studies investigating the effect of (poly)phenols-rich supplementation with low and medium human bioavailability on BDNF.



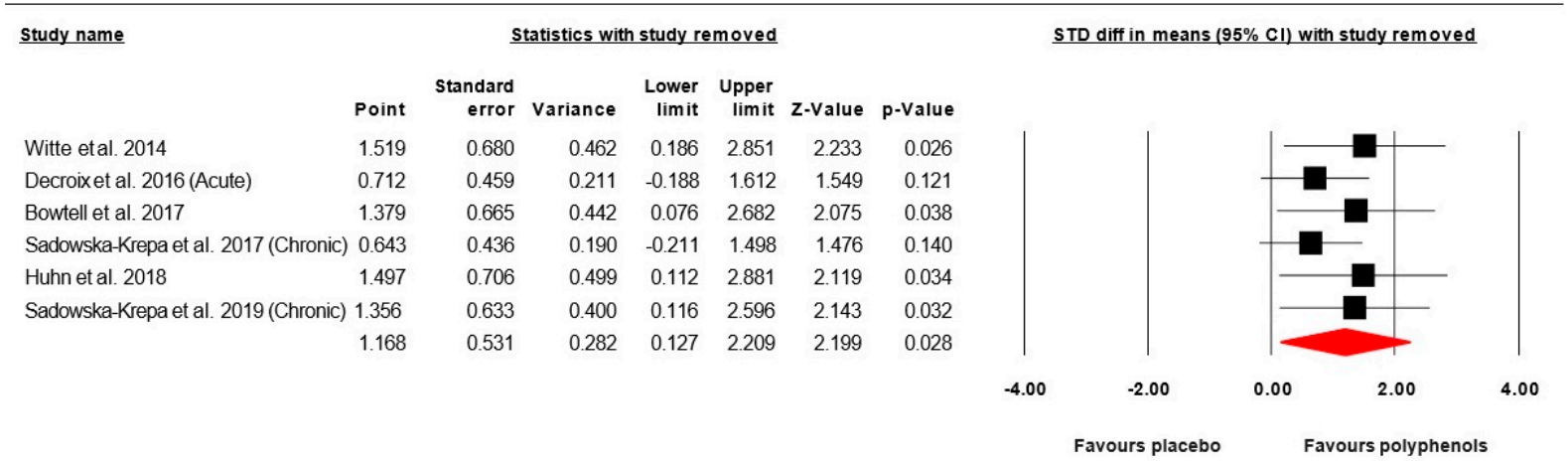


Figure S7. Cumulative statistics and statistics with study removed for studies investigating the effect of (poly)phenols-rich supplementation on BDNF.