Supplemental Online Content

Tseng PT, Zeng BS, Hung CM, et al. Assessment of noninvasive brain stimulation interventions for negative symptoms of schizophrenia: a systematic review and network meta-analysis. *JAMA Psychiatry*. Published online June 22, 2022. doi:10.1001/jamapsychiatry.2022.1513

This supplemental material has been provided by the authors to give readers additional information about their work.

eMethods.

General study guidelines

This NMA was conducted in accordance with the extended 2020 version of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Guidelines (eTable 1).[1] The current study was approved by the Institutional Review Board of the Tri-Service General Hospital, National Defense Medical Center (TSGHIRB No. B-109–29), and was a priori registered in PROSPERO (CRD42022296839).

NMA objectives

The present study compared the effects of different NIBS methods and protocols on the severity of negative symptoms among participants with schizophrenia. The PICO (population, intervention, comparison, outcome) setting of the NMA was as follows: (1) P: patients with an established diagnosis of schizophrenia; (2) I: treatment with a NIBS intervention (at least five sessions), including rTMS, TBS, tRNS, tVNS, or tDCS; (3) C: the results of the active interventions were compared with those of sham control groups; and (4) O: change in the severity of negative symptoms. Only RCTs investigating changes in negative symptoms after NIBS as their primary or secondary outcomes were deemed eligible for inclusion in the NMA. For RCTs employing a crossover design, we extracted outcomes before the crossover procedure to avoid potential carry-over effects.

Search strategy and screening process

The keywords applied in the search strategy were as follows: (deep transcranial magnetic stimulation OR dTMS OR repetitive transcranial magnetic stimulation OR rTMS OR TMS OR non-invasive brain stimulation OR theta-burst stimulation OR transcranial direct current stimulation OR TBS OR tDCS OR vagus nerve stimulation OR vagal nerve stimulation OR tVNS OR nVNS OR VNS OR static magnetic field stimulation OR tSMS) AND (negative symptoms OR anhedonia OR alogia OR asociality OR avolition OR apathy) AND (schizophrenia OR schizophrenic disorder) AND (random OR randomized OR randomised). We searched the ClinicalKey, Cochrane CENTRAL, EMBASE, ProQuest, PubMed, ScienceDirect, and Web of Science databases for RCTs from inception through December 7, 2021 (for the detailed search strategy, please see eTable 2). To assess gray literature and unpublished studies, we searched ClinicalTrials.gov. No language restrictions were applied. The search strategy was further augmented by the manual search of the reference lists of eligible articles as well as previous review articles and pairwise meta-analyses on this topic.[2-21] The overall screening and selection strategy included two stages. The first stage comprised title and abstract screening, and the second was full-text screening and selection.

Eligibility criteria

To adhere to transitivity assumptions and reduce heterogeneity across the included studies, we applied stringent inclusion criteria: (1) RCTs, (2) application of NIBS interventions, (3) participants recruited with an established diagnosis of schizophrenia, and (4) studies comparing the efficacy of different NIBS strategies to manage participants' negative symptoms.

Studies were excluded if they (1) were not RCTs, (2) did not provide a measure of the severity of negative symptoms, (3) were not related to NIBS, (4) did not recruit participants with schizophrenia, or (5) applied less than five sessions of NIBS stimulation. In cases of duplicate reporting (i.e., different articles based on the same sample), we included only the article with the largest sample size.

Data extraction

Two authors independently screened references, extracted relevant information from the manuscripts, and evaluated the risk of bias of the included studies. Disagreements were resolved either through consensus or discussion with a third investigator. Whenever available data were lacking in the original manuscripts, their corresponding authors or coauthors were contacted to obtain the full original data in at least two occasions over a one-week period. We followed a flowchart in accordance with the procedures of other NMAs.[22-29] The nomenclature of the brain mapping was based on 10–20 electroencephalography mapping (i.e., F3 for left DLPFC, Fp1 for left vmPFC, and F4 for right DLPFC). The nomenclature and classification of the treatment arms were named according to our previous six NMAs on NIBS approaches for other conditions.[26-31]

Outcomes

The co-primary outcomes were (1) changes in the scores of negative symptoms after NIBS management relative to the sham control and (2) acceptability (i.e., withdrawal for any reason). The dropout rate was defined when patients left the study for any reason before the study's completion. The choice of co-primary outcomes was based on widely accepted rationales from other NMAs investigating NIBS.[27,32] The secondary outcomes included changes in positive symptoms and depression severity. We considered the latest outcomes available in each eligible RCT to account for any possible delayed beneficial effects of NIBS on negative symptoms.[33]

Bias assessment

Two authors independently evaluated the risk of bias (interrater reliability = 0.87) for each domain included in the Cochrane risk of bias tool. We assessed the risk of bias in accordance with the Cochrane risk of bias tool; specifically, the item "other bias" was assessed for any potential bias not addressed by the existing risk of bias items.[34] We choose to use the original version of risk of bias tool rather than the Risk of Bias 2 tool because the former is relatively more intuitive than the later for the ordinary clinicians, which were the targeted audience of this study.

Statistical analysis

The NMA was performed using STATA (version 16.0; StataCorp, College Station, TX, USA). We employed the *mvmeta* command in STATA.[35] For continuous variables, we estimated the standardized mean differences (SMDs) with 95% confidence intervals (95%CI). For acceptability (dropout rate), we estimated the odds ratios and 95%CIs. As required by the *mvmeta* command in STATA, we applied a 0.5 zero-cell correction during the meta-analysis if a study had zero events in either the intervention or control arm. However, if a study had zeros in both the intervention and control arms, we did not perform a correction procedure because of the risk of increasing the bias; instead, we excluded these studies from our analysis.[36,37] All pairwise meta-analyses and NMA procedures were conducted using random-effects and frequentist models, respectively. Heterogeneity among the included studies was evaluated using the tau value, which is the estimated standard deviation of the effect across the included studies. All comparisons were performed using a two-tailed test, and *P* values of <0.05 were considered statistically significant.

This study used a mixed comparison with generalized linear mixed models to analyze direct and indirect comparisons in the NMA.[38] Specifically, indirect comparisons were conducted using transitivity, meaning that differences between treatments A and B could be calculated from their comparisons with a third treatment, C. To compare multiple treatment arms, this study combined the direct and indirect evidence of the included studies.[39] The restricted maximum likelihood method was used to evaluate the variance between the studies.[40] To provide additional clinical applications, this study calculated the relative ranking probabilities of the effects of all treatments on the target outcomes. In brief, the surface under the cumulative ranking curve (SUCRA) indicated the percentage of the mean rank of each intervention relative to an imaginary intervention that was optimal without uncertainty.[41] This study used comparison-adjusted funnel plots and Egger's regression to evaluate potentially small study effects and publication bias.

In addition, this study evaluated potential inconsistencies between the direct and indirect evidence within the network by using the loop-specific approach and local inconsistencies by performing node splitting. This study also used the design-by-treatment model to evaluate global inconsistency

across the NMA.[42] We followed Cochrane Handbook for GRADE ratings in BMJ[43] and one important network meta-analysis in Lancet[44] for quality assessment.

Finally, in line with the rationale of another NMA study,[29] this study assessed the effectiveness of the different sham interventions (i.e., changes in negative symptom severity) or waiting-list controls to justify our assumption of transitivity. Specifically, this study computed the changes in negative symptom severity relative to tDCS sham therapy, rTMS sham therapy, and waiting-list controls by using Comprehensive Meta-Analysis (version 3; Biostat, Englewood, NJ, USA). Furthermore, this study conducted subgroup analyses focusing on RCTs with definite diagnostic criteria for schizophrenia.

eTable 1: PRISMA 2020 checklist of current network meta-analysis

Section and Topic	Item #	Checklist item	Page where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	9-10
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	13-14
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	14-15
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	16-17, appendix
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	16-17, appendix
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	16-17, appendix
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	16-17, appendix
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	16-17, appendix
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	16-17, appendix
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	16-17, appendix
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	16-17, appendix
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	16-17, appendix
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	16-17, appendix
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	16-17, appendix
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	16-17, appendix
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	16-17, appendix
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	16-17, appendix
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	16-17, appendix
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	16-17, appendix
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	16-17, appendix
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of	18-19, Fig 1

Section and Topic	Item #	Checklist item	Page where item is reported
		studies included in the review, ideally using a flow diagram.	
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	18-19, eTab 2
Study characteristics	17	Cite each included study and present its characteristics.	18-19, eTab 3
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	18-19, eFig 3
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	18-19, eTab 3
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	18-19, eFig 4
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	19-20, Fig 3, eFig 3
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	19-20, eTab 6-7
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	19-20
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	20-22, eFig 4
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	20-22, eTab 6-7
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	23-25
	23b	Discuss any limitations of the evidence included in the review.	26-27
	23c	Discuss any limitations of the review processes used.	26-27
	23d	Discuss implications of the results for practice, policy, and future research.	28
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	10
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	10
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	10
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	29
Competing interests	26	Declare any competing interests of review authors.	29
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	29

The current checklist followed the latest PRISMA 2020 guideline.[1]

eTable 2: Keywords in each database and search result

Database	Keyword	Filter	Date	Result
PubMed	(deep transcranial magnetic stimulation OR dTMS OR repetitive transcranial magnetic stimulation OR rTMS OR TMS OR non-invasive brain stimulation OR theta burst stimulation OR transcranial direct current stimulation OR TBS OR tDCS OR vagus nerve stimulation OR vagal nerve stimulation OR tVNS OR nVNS OR VNS OR static magnetic field stimulation OR tSMS) AND (negative symptoms OR anhedonia OR alogia OR asociality OR avolition OR apathy) AND (schizophrenia OR schizophrenic disorder) AND (random OR randomized OR randomised)	NA	2021/12/07	115
Embase	(deep transcranial magnetic stimulation OR dTMS OR repetitive transcranial magnetic stimulation OR rTMS OR TMS OR non-invasive brain stimulation OR theta burst stimulation OR transcranial direct current stimulation OR TBS OR tDCS OR vagus nerve stimulation OR vagal nerve stimulation OR tVNS OR nVNS OR VNS OR static magnetic field stimulation OR tSMS) AND (negative symptoms OR anhedonia OR alogia OR asociality OR avolition OR apathy) AND (schizophrenia OR schizophrenic disorder) AND (random OR randomized OR randomised)	NA	2021/12/07	213
ClinicalKey	(non-invasive brain stimulation) AND (schizophrenia) AND (negative symptom)	NA	2021/12/07	579
Cochrane CENTRAL	(deep transcranial magnetic stimulation OR dTMS OR repetitive transcranial magnetic stimulation OR rTMS OR TMS OR non-invasive brain stimulation OR theta burst stimulation OR transcranial direct current stimulation OR TBS OR tDCS OR vagus nerve stimulation OR vagal nerve stimulation OR tVNS OR nVNS OR VNS OR static magnetic field stimulation OR tSMS) AND (negative symptoms OR anhedonia OR alogia OR asociality OR avolition OR apathy) AND	NA	2021/12/07	181

	(schizophrenia OR schizophrenic disorder) AND (random OR randomized OR randomised)			
ProQuest	(non-invasive brain stimulation) AND (schizophrenia) AND (negative symptom)	NA	2021/12/07	2822
ScienceDirect	(non-invasive brain stimulation) AND (schizophrenia) AND (negative symptom)	Research article	2021/12/07	829
Web of Science	(deep transcranial magnetic stimulation OR dTMS OR repetitive transcranial magnetic stimulation OR rTMS OR TMS OR non-invasive brain stimulation OR theta burst stimulation OR transcranial direct current stimulation OR TBS OR tDCS OR vagus nerve stimulation OR vagal nerve stimulation OR tVNS OR nVNS OR VNS OR static magnetic field stimulation OR tSMS) AND (negative symptoms OR anhedonia OR alogia OR asociality OR avolition OR apathy) AND (schizophrenia OR schizophrenic disorder) AND (random OR randomized OR randomised)	NA	2021/12/07	128
ClinicalTrials.gov	(non-invasive brain stimulation) AND (schizophrenia) AND (negative symptom)	NA	2021/12/07	0

Abbreviation: NA: not applied

eTable 3: Excluded studies and reason

Reason	Numbers	Reference
Did not provide detailed demographic information of each group	1	45
Duplicate sample sources as other included studies	3	46-48
Intended to select specific patients from previous RCTs, which would violate the randomization	1	49
Lack of sufficient data	2	50,51
Meta-analysis	12	2-11,16,21
Not investigate target outcome (i.e. negative symptoms)	16	52-67
Not randomization controlled trial	7	68-74
Not simply schizophrenia/schizoaffective disorder (also consist of depression)	1	75
Only provide result of subgroup, which would violate the randomization	1	76
Review article	8	13-15,17-20,77
Study protocol but not result of a study	1	78

eTable 4: Characteristics of the included studies

Study name	Machine origin	Diagnosis criteria	Comparison	Subject	mean age	female (%)	Tx duration (week)	Whole duration (week)*	Country
Basavaraju, R. (2021)[79]	MagVenture	DSM-5	iTBS at Iz (vermal part of cerebellum) Sham control	30 30	31.2±9.9 34.2±8.1	20.0 26.7	1	7	India
Bation, R. (2021)[80]	MagVenture	DSM-IV-TR	iTBS at left DLPFC (F3) Sham control	12 10	42.3±9.4 41.6±12.6	0.0 10.0	2	26	France
Chang, C.C. (2021)[81]	NeuroConn	DSM-5	High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 Sham control	17 18	44.1±12.5 43.2±11.6	35.3 44.4	1	5	Taiwan
Chauhan, P. (2021)[82]	MagVenture	ICD-10	iTBS at Iz (vermal part of cerebellum) Sham control	19 17	41.7±8.9 39.4±8.2	63.2 52.9	1	3	India
Dharani, R. (2021)[83]	Starstim	ICD-10	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 Sham control	7 7	39.1±3.8 33.9±6.8	14.3	2	2	India
Pan, Z. (2021)[84]	Magstim	DSM-IV	10 Hz rTMS at left DLPFC (F3) Sham control	19 19	56.7±12.4 57.4±8.7	26.3 36.8	4	4	China
Zhu, L. (2021)[85]	Medtronic	ICD-10	iTBS at Iz (vermal part of cerebellum) Sham control	32 32	35.2±7.1 35.3±6.1	43.75 56.25	2	26	China
Chang, C.C. (2020)[86]	NeuroConn	DSM-IV-TR	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 Sham control	30 30	44.7±10.7 45.0±10.9	36.7 63.3	1	13	Taiwan
Guan, H.Y. (2020)[87]	Magstim	DSM-IV	20 Hz rTMS at left DLPFC (F3) Sham control	21 20	55.5±7.3 49.3±10.2	NA	8	8	China

Kumar, N. (2020)[88]	Magstim	ICD-10	20 Hz rTMS at left DLPFC (F3) Sham control	50 50	32.4±9.2 30.8±9.3	42.0 44.0	4	20	India
Li, X. (2020)[89]	YRD CCY-I stimulator	DSM-IV	10 Hz rTMS at left DLPFC (F3) Controls (risperidone only)	47 47	23.9±5.7 24.0±5.3	51.1 48.9	2	14	China
Singh, S. (2020)[90]	Magstim	ICD-10	20 Hz rTMS at left DLPFC (F3) Sham control	15 15	33.3±9.8 29.8±5.7	46.7 40.0	4	4	India
Valiengo, L.D.C.L. (2020)[91]	NeuroConn	DSM-IV	2 mA Anode tDCS at F3, cathode at T3P3 (left TPJ) Sham control	50 50	34.6±8.4 35.9±10.1	18.0 22.0	1	13	Brazil
Xiu, M.H. (2020)[92]	Magstim	DSM-IV	20 Hz rTMS at left DLPFC (F3) 10 Hz rTMS at left DLPFC (F3) Sham control	40 40 40	52.0±10.1 50.7±9.0 54.7±6.4	0.0 0.0 0.0	8	32	China
Chang, C.C. (2019)[93]	NeuroConn	DSM-IV-TR	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) Sham control	30 30	46.4±10.3 42.2±10.3	53.3 56.7	1	1	Taiwan
Zhuo, K. (2019)[94]	MagVenture	DSM-IV-TR	20 Hz rTMS at left DLPFC (F3) Sham control	33 27	29.0±7.4 30.6±8.3	33.3 29.6	4	4	China
Gomes, J.S. (2018)[95]	not mentioned	DSM-IV	2 mA Anode tDCS at F3, cathode at F4 Sham control	12 12	39.2±9.3 33.8±12.1	16.7 41.7	2	14	Brazil
Jeon, D.W. (2018)[96]	YDT-201N	DSM-5	2 mA Anode tDCS at F3, cathode at F4 Sham control	26 28	40.0±9.4 39.9±12.4	50.0 53.6	2	14	South Korea
Mellin, J.M. (2018)[97]	NeuroConn	DSM-IV	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ) Sham control	8 7 7	47.0±9.7 29.6±11.0 38.9±10.0	12.5 42.9 42.9	1	5	USA
Hasan, A. (2017)[98]	Medtronic	ICD-10/DSM-IV	10 Hz rTMS at left DLPFC (F3) Sham control	34 39	33.9±8.9 36.0±9.9	14.7 20.5	3	3	Germany

Frohlich, F. (2016)[99]	NeuroConn	DSM-IV	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) Sham control	13 13	43.4±12.6 40.0±10.7	23.1 7.7	1	5	USA
Garg, S. (2016)[100]	Magstim	ICD-10	Theta-range rTMS at Iz (vermal part of cerebellum) Sham control	20 20	32.4±8.4 30.8±7.9	15.0 20.0	2	4	India
Li, Z. (2016)[33]	Medtronic	ICD-9-CM	10 Hz rTMS at left DLPFC (F3) Sham control	25 22	45.2 44.9	52.0 50.0	4	8	China
Mondino, M. (2016)[101]	NeuroConn	DSM-IV-TR	2 mA Anode tDCS at F3, cathode at T3P3 (left TPJ) Sham control	11 12	36.7±9.7 37.3±9.7	27.3 41.7	2	2	France
Palm, U. (2016)[102]	NeuroConn	DSM-IV	2 mA Anode tDCS at F3, cathode at Fp2 Sham control	10 10	38.4±12.9 34.1±10.7	50.0 0.0	2	4	Germany
Dlabac-de Lange, J.J. (2015)[103]	Medtronic	DSM-IV	10 Hz rTMS at left DLPFC (F3) and right DLPFC (F4) Sham control	16 16	41.8±11.6 32.3±9.7	12.5 25.0	3	15	the Netherlands
Gan, J. (2015)[104]	Magstim	DSM-IV	10 Hz rTMS at left DLPFC (F3) Sham control	32 35	28.0±9.0 29.0±9.0	37.5 31.4	2	2[&]	China
Hasan, A. (2015)[105]	Cerbomed	ICD-10	tVNS at left auricle Sham control	9 8	37.6±10.5 35.5±12.7	44.4 62.5	12	12[#]	Germany
Quan, W.X. (2015)[106]	Cadwell MES-9	DSM-IV	10 Hz rTMS at left DLPFC (F3) Sham control	78 39	46.9±7.9 46.9±9.1	43.6 28.2	2	8	China
Ray, P. (2015)[107]	Magstim	ICD-10	6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 Sham priming control + 1 Hz rTMS at PT3 (left temporo-parietal cortex)	20 20	31.4±7.1 29.3±8.7	NA	2	6	India

Wobrock, T. (2015)[108]	Medtronic	ICD-10	10 Hz rTMS at left DLPFC (F3) Sham control	76 81	36.2±10.5 34.9±9.1	18.4 30.9	3	3	Germany
Rabany, L. (2014)[109]	Magstim	ICD-10	20 Hz deep rTMS at left DLPFC (F3) Sham control	20 10	33.1±11.3 35.9±11.0	35.0 10.0	4	8	Israel
Zhao, S. (2014)[110]	Magpro	DSM-IV	10 Hz rTMS at left DLPFC (F3) 20 Hz rTMS at left DLPFC (F3) iTBS at left DLPFC (F3) Sham control	24 23 24 22	48.0±12.2 49.1±10.6 47.7±11.8 46.7±13.1	55.2 56.5 45.9 45.5	4	4	China
Prikryl, R. (2013)[111]	Magstim	ICD-10	10 Hz rTMS at left DLPFC (F3) Sham control	23 17	31.6±8.0 33.9±10.0	0.0 0.0	3	3	Czech Republic
Barr, M.S. (2012)[112]	Medtronic	DSM-IV	20 Hz rTMS at left DLPFC (F3) and right DLPFC (F4) Sham control	13 12	40.5±12.2 47.9±12.8	46.2 16.7	4	6	Canada
Brunelin, J. (2012)[113]	NeuroConn	DSM-IV-TR	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) Sham control	15 15	40.4±9.9 35.1±7.0	NA	1	13	France
Prikryl, R. (2012)[114]	Magstim	ICD-10	10 Hz rTMS at left DLPFC (F3) Sham control	19 11	30.5±9.2 34.6±10.6	0.0 0.0	3	3	Czech Republic
Rosenberg, O. (2012)[115]	Magstim	DSM-IV-TR	1 Hz deep rTMS at PT3 (left temporo-parietal cortex) Sham control	9 9	40.8±16.6 38.4±12.6	22.2 11.1	2	2	Israel

Zheng, L.N. (2012)[116]	Magpro	CCMD3	iTBS at left DLPFC (F3) 10 Hz rTMS at left DLPFC (F3) 20 Hz rTMS at left DLPFC (F3) Sham control	18 19 19 17	56.4±9.3 56.5±7.4 56.8±5.4 55.6±5.8	0.0 0.0 0.0 0.0	1	1	China
Fitzgerald, P.B. (2008)[117]	Medtronic	DSM-IV	10 Hz rTMS at left PFC (F3) and right PFC (F4) Sham control	12 8	37.2±10.4 33.2±9.8	16.7 25.0	3	3	Australia
Mogg, A. (2007)[118]	Magstim	DSM-IV	10 Hz rTMS at left DLPFC (F3) Sham control	8 9	50.8±14.5 33.6±9.8	12.5 0.0	2	4	UK
Prikryl, R. (2007)[119]	Magstim	ICD-10	10 Hz rTMS at left DLPFC (F3) Sham control	11 11	31.4±8.4 36.5±10.7	0.0 0.0	3	3	Czech Republic
Rosa, M.O. (2007)[120]	Medtronic	DSM-IV	1 Hz rTMS at PT3 (left temporo-parietal cortex) Sham control	6 5	29.8±8.4 33.0±12.1	33.3 60.0	2	6	Brazil
Novak, T. (2006)[121]	Magstim	DSM-IV	20 Hz rTMS at left DLPFC (F3) Sham control	8 8	35.3±9.2 32.8±6.3	12.5 37.5	2	8	Czech Republic
Saba, G. (2006)[122]	Magstim	DSM-IV	1 Hz rTMS at PT3 (left temporo-parietal cortex) Sham control	8 8	30.7±8.0 30.6±8.0	18.8	2	2	France
Hajak, G. (2004)[123]	Magstim	DSM-IV	10 Hz rTMS at left DLPFC (F3) Sham control	10 10	37.9±7.7 41.7±10.3	80.0 60.0	2	2	Germany
Holi, M.M. (2004)[124]	Magstim	DSM-IV	10 Hz rTMS at left DLPFC (F3) Sham control	11 11	38.5±10.2 34.8±9.8	13.6	2	2	Finland
Klein, E. (1999)[125]	Cadwell MES-10	not mentioned	1 Hz rTMS at right PFC (F4) Sham control	18 17	30.2±10.0 29.5±9.3	61.1 64.7	2	6	Israel

*: whole duration = treatment duration + post-treatment follow-up duration

[&]: we extracted outcome at week 2 because of insufficient data of control group at week 12

[#]: extract primary endpoint data (i.e. the end of treatment period I)

eTable 5A: SUCRA of the improvement of negative symptoms

Treatment	(Full name)	SUCRA
hd-tRNS-AF3AF4F2F6FC4	High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4	2.4
iTBS-F3	iTBS at left DLPFC (F3)	12.4
a-tDCS-F3Fp1 + c-tDCS-F4Fp2	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2	15.7
a-tDCS-F3 + c-tDCS-Fp2	2 mA Anode tDCS at F3, cathode at Fp2	17.3
a-tDCS-F3 + c-tDCS-TP3	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)	27.4
hf-rTMS-F3F4	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)	40.1
ehf-rTMS-F3	extreme hf (20Hz) rTMS at left DLPFC (F3)	44.5
hf-rTMS-F3	hf (10Hz) rTMS at left DLPFC (F3)	45.3
hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1	45.3
prTMS-PT3 + lf-rTMS-PT3	6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3	48.8
a-tDCS-F3Fp1 + c-tDCS-TP3	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)	49.2
ehf-dTMS-F3	20 Hz deep rTMS at left DLPFC (F3)	49.8
ehf-rTMS-F3F4	extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)	51.2
tVNS	tVNS at left auricle	57.1
lf-dTMS-PT3	1 Hz deep rTMS at PT3 (left temporo-parietal cortex)	58.8
lf-rTMS-PT3	1 Hz rTMS at PT3 (left temporo-parietal cortex)	60.7
a-tDCS-F3 + c-tDCS-F4	2 mA Anode tDCS at F3, cathode at F4	64.8
tACS-F3Fp1-TP3	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)	72.2
Sham	Sham	72.4

iTBS-Iz	iTBS at Iz (vermal part of cerebellum)	73.0
a-tDCS-TP3 + c-tDCS-F3Fp1	2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)	79.5
lf-rTMS-F4	1 Hz rTMS at right PFC (F4)	79.8
the-rTMS-Iz	Theta-range rTMS at Iz (vermal part of cerebellum)	82.2

Sorted by efficacy order (the former, the better improvement of negative symptoms)

eTable 5B: SUCRA of the improvement of negative symptoms: subgroup of definite diagnostic criteria

Treatment	(Full name)	SUCRA
hd-tRNS-AF3AF4F2F6FC4	High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4	3.0
iTBS-F3	iTBS at left DLPFC (F3)	12.4
a-tDCS-F3Fp1 + c-tDCS-F4Fp2	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2	16.2
a-tDCS-F3 + c-tDCS-Fp2	2 mA Anode tDCS at F3, cathode at Fp2	18.2
a-tDCS-F3 + c-tDCS-TP3	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)	28.0
hf-rTMS-F3F4	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)	41.0
ehf-rTMS-F3	extreme hf (20Hz) rTMS at left DLPFC (F3)	45.6
hf-rTMS-F3	hf (10Hz) rTMS at left DLPFC (F3)	47.6
hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1	48.7
prTMS-PT3 + lf-rTMS-PT3	6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3	48.8
a-tDCS-F3Fp1 + c-tDCS-TP3	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)	50.2
ehf-dTMS-F3	20 Hz deep rTMS at left DLPFC (F3)	51.1
ehf-rTMS-F3F4	extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)	52.3
tVNS	tVNS at left auricle	59.6
lf-rTMS-PT3	1 Hz rTMS at PT3 (left temporo-parietal cortex)	61.1
lf-dTMS-PT3	1 Hz deep rTMS at PT3 (left temporo-parietal cortex)	61.7
a-tDCS-F3 + c-tDCS-F4	2 mA Anode tDCS at F3, cathode at F4	67.1
tACS-F3Fp1-TP3	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)	73.9
Sham	Sham	74.5

iTBS-Iz	iTBS at Iz (vermal part of cerebellum)	76.2
a-tDCS-TP3 + c-tDCS-F3Fp1	2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)	79.4
the-rTMS-Iz	Theta-range rTMS at Iz (vermal part of cerebellum)	83.5

Sorted by efficacy order (the former, the better improvement of negative symptoms)

eTable 5C: SUCRA of the tolerability in aspect of drop-out rate

Treatment	(Full name)	SUCRA
hf-rTMS-F3F4	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)	79.6
iTBS-F3	iTBS at left DLPFC (F3)	74.3
hf-rTMS-F3	hf (10Hz) rTMS at left DLPFC (F3)	69.8
ehf-rTMS-F3	extreme hf (20Hz) rTMS at left DLPFC (F3)	56.4
lf-rTMS-F4	1 Hz rTMS at right PFC (F4)	54.6
tACS-F3Fp1-TP3	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)	53.7
hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1	53.4
lf-dTMS-PT3	1 Hz deep rTMS at PT3 (left temporo-parietal cortex)	53.3
a-tDCS-F3 + c-tDCS-Fp2	2 mA Anode tDCS at F3, cathode at Fp2	53.1
lf-rTMS-PT3	1 Hz rTMS at PT3 (left temporo-parietal cortex)	52.6
a-tDCS-TP3 + c-tDCS-F3Fp1	2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)	52.5
Sham	Sham	52.0
tVNS	tVNS at left auricle	51.4
the-rTMS-Iz	Theta-range rTMS at Iz (vermal part of cerebellum)	44.4
prTMS-PT3 + lf-rTMS-PT3	6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3	44.1
iTBS-Iz	iTBS at Iz (vermal part of cerebellum)	43.5
a-tDCS-F3 + c-tDCS-F4	2 mA Anode tDCS at F3, cathode at F4	35.2
a-tDCS-F3Fp1 + c-tDCS-TP3	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)	31.3
hd-tRNS-AF3AF4F2F6FC4	High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4	29.2

a-tDCS-F3 + c-tDCS-TP3	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)	15.5

Sorted by efficacy order (the former, the better tolerability in aspect of drop-out rate)

eTable 5D: SUCRA of the improvement of positive symptoms

Treatment	(Full name)	SUCRA
prTMS-PT3 + lf-rTMS-PT3	6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3	22.8
hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1	27.2
a-tDCS-F3 + c-tDCS-Fp2	2 mA Anode tDCS at F3, cathode at Fp2	28.7
lf-dTMS-PT3	1 Hz deep rTMS at PT3 (left temporo-parietal cortex)	35.9
lf-rTMS-PT3	1 Hz rTMS at PT3 (left temporo-parietal cortex)	37.4
a-tDCS-F3Fp1 + c-tDCS-F4Fp2	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2	37.7
tACS-F3Fp1-TP3	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)	39.1
a-tDCS-TP3 + c-tDCS-F3Fp1	2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)	40.4
iTBS-Iz	iTBS at Iz (vermal part of cerebellum)	41.0
a-tDCS-F3Fp1 + c-tDCS-TP3	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)	41.1
a-tDCS-F3 + c-tDCS-TP3	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)	44.2
hf-rTMS-F3	hf (10Hz) rTMS at left DLPFC (F3)	47.4
ehf-rTMS-F3F4	extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)	50.1
Sham	Sham	51.7
a-tDCS-F3 + c-tDCS-F4	2 mA Anode tDCS at F3, cathode at F4	55.8
hd-tRNS-AF3AF4F2F6FC4	High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4	57.1
hf-rTMS-F3F4	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)	61.6
lf-rTMS-F4	1 Hz rTMS at right PFC (F4)	64.1
the-rTMS-Iz	Theta-range rTMS at Iz (vermal part of cerebellum)	71.6

ehf-rTMS-F3	extreme hf (20Hz) rTMS at left DLPFC (F3)	73.3
tVNS	tVNS at left auricle	78.7
iTBS-F3	iTBS at left DLPFC (F3)	93.1

Sorted by efficacy order (the former, the better improvement of positive symptoms)

eTable 5E: SUCRA of the improvement of depressive symptoms

Treatment	(Full name)	SUCRA
a-tDCS-F3 + c-tDCS-Fp2	2 mA Anode tDCS at F3, cathode at Fp2	10.1
a-tDCS-F3Fp1 + c-tDCS-F4Fp2	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2	10.1
a-tDCS-F3Fp1 + c-tDCS-TP3	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)	20.7
hf-rTMS-F3	hf (10Hz) rTMS at left DLPFC (F3)	36.3
a-tDCS-F3 + c-tDCS-F4	2 mA Anode tDCS at F3, cathode at F4	42.8
a-tDCS-F3 + c-tDCS-TP3	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)	43.8
ehf-rTMS-F3	extreme hf (20Hz) rTMS at left DLPFC (F3)	44.6
the-rTMS-Iz	Theta-range rTMS at Iz (vermal part of cerebellum)	46.2
ehf-dTMS-F3	20 Hz deep rTMS at left DLPFC (F3)	53.1
tVNS	tVNS at left auricle	57.9
Sham	Sham	58.6
ehf-rTMS-F3F4	extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)	75.3
iTBS-Iz	iTBS at Iz (vermal part of cerebellum)	78.3
lf-rTMS-F4	1 Hz rTMS at right PFC (F4)	80.0
hf-rTMS-F3F4	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)	92.2

Sorted by efficacy order (the former, the better improvement of depressive symptoms)

Abbreviation: DLPFC: dorsolateral prefrontal cortex; iTBS: intermittent theta-burst stimulation; NIBS: noninvasive brain stimulation; NMA: network meta-analysis; OR: odds ratio; rTMS: repetitive transcranial magnetic stimulation; SMD: standardized mean difference; SUCRA: surface under the cumulative ranking curve; TBS: theta-burst stimulation; tDCS: transcranial direct current stimulation; tRNS: transcranial random noise stimulation; tVNS: transcutaneous vegal nerve stimulation

eTable 6A: League table of the improvement of negative symptoms: subgroup of definite diagnostic criteria

High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4																		***-2.19 (-3.05,-1.33)**			
-0.87 (-2.18,0.43)	iTBS at left DLPFC (F3)					***-0.74 (-1.19,-0.28)**	-0.60 (-1.37,0.17)											***-1.62 (-3.17,-0.08)**			
-0.90 (-2.43,0.63)	-0.02 (-1.15,1.10)	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2																***-1.29 (-1.85,-0.73)**			
-0.91 (-2.63,0.82)	-0.03 (-1.42,1.35)	-0.01 (-1.61,1.59)	2 mA Anode tDCS at F3, cathode at Fp2															***-1.29 (-2.27,-0.30)**			
-1.34 (-2.72,0.03)	-0.47 (-1.38,0.44)	-0.44 (-1.66,0.77)	-0.44 (-1.89,1.02)	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)														***-0.89 (-1.27,-0.52)**			
***-1.61 (-3.04,-0.18)**	-0.74 (-1.73,0.26)	-0.71 (-1.99,0.57)	-0.70 (-2.22,0.81)	-0.27 (-1.36,0.82)	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)													-0.67 (-2.04,0.70)			
***-1.74 (-2.96,-0.51)**	***-0.86 (-1.46,-0.27)**	-0.84 (-1.87,0.20)	-0.83 (-2.14,0.48)	-0.39 (-1.18,0.40)	-0.13 (-1.02,0.76)	extreme hf (20Hz) rTMS at left DLPFC (F3)	0.09 (-0.22,0.39)											***-0.48 (-0.87,-0.10)**			
***-1.76 (-2.96,-0.56)**	***-0.89 (-1.46,-0.31)**	-0.86 (-1.87,0.15)	-0.86 (-2.15,0.44)	-0.42 (-1.17,0.34)	-0.15 (-1.01,0.71)	-0.02 (-0.41,0.36)	hf (10Hz) rTMS at left DLPFC (F3)											***-0.42 (-0.67,-0.17)**			
-1.70 (-3.48,0.08)	-0.82 (-2.27,0.63)	-0.80 (-2.45,0.86)	-0.79 (-2.63,1.05)	-0.35 (-1.87,1.16)	-0.09 (-1.66,1.48)	0.04 (-1.34,1.42)	0.06 (-1.30,1.42)	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1										-0.49 (-1.56,0.58)			
-1.76 (-3.58,0.06)	-0.89 (-2.38,0.61)	-0.86 (-2.56,0.84)	-0.85 (-2.74,1.03)	-0.42 (-1.98,1.15)	-0.15 (-1.77,1.47)	-0.02 (-1.46,1.41)	0.00 (-1.41,1.41)	-0.06 (-1.99,1.87)	6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					-0.25 (-0.87,0.38)							
***-1.80 (-3.12,-0.48)**	***-0.92 (-1.75,-0.10)**	-0.90 (-2.05,0.25)	-0.89 (-2.30,0.51)	-0.45 (-1.39,0.48)	-0.19 (-1.21,0.84)	-0.06 (-0.76,0.63)	-0.04 (-0.69,0.62)	-0.10 (-1.57,1.37)	-0.04 (-1.56,1.48)	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)								-0.39 (-1.14,0.37)			
***-1.81 (-3.42,-0.19)**	-0.93 (-2.18,0.31)	-0.91 (-2.39,0.57)	-0.90 (-2.59,0.78)	-0.47 (-1.79,0.85)	-0.20 (-1.58,1.18)	-0.07 (-1.23,1.09)	-0.05 (-1.19,1.09)	-0.11 (-1.85,1.62)	-0.05 (-1.83,1.73)	-0.01 (-1.28,1.25)	20 Hz deep rTMS at left DLPFC (F3)							-0.38 (-1.15,0.39)			
***-1.81 (-3.44,-0.18)**	-0.93 (-2.19,0.33)	-0.91 (-2.40,0.58)	-0.90 (-2.60,0.80)	-0.46 (-1.80,0.87)	-0.20 (-1.59,1.20)	-0.07 (-1.25,1.11)	-0.05 (-1.20,1.11)	-0.11 (-1.86,1.64)	-0.05 (-1.84,1.74)	-0.01 (-1.29,1.27)	0.00 (-1.58,1.58)	extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)						-0.38 (-1.18,0.41)			
***-1.96 (-3.69,-0.23)**	-1.08 (-2.47,0.30)	-1.06 (-2.66,0.54)	-1.05 (-2.85,0.74)	-0.61 (-2.07,0.84)	-0.35 (-1.86,1.17)	-0.22 (-1.54,1.09)	-0.20 (-1.49,1.10)	-0.26 (-2.11,1.58)	-0.20 (-2.08,1.69)	-0.16 (-1.57,1.25)	-0.15 (-1.84,1.54)	-0.15 (-1.85,1.55)	tVNS at left auricle					-0.23 (-1.22,0.75)			
***-2.01 (-3.52,-0.50)**	***-1.13 (-2.23,-0.03)**	-1.11 (-2.47,0.26)	-1.10 (-2.69,0.48)	-0.66 (-1.85,0.53)	-0.40 (-1.65,0.86)	-0.27 (-1.28,0.74)	-0.25 (-1.23,0.74)	-0.31 (-1.95,1.33)	-0.25 (-1.26,0.77)	-0.21 (-1.34,0.92)	-0.20 (-1.66,1.26)	-0.20 (-1.67,1.28)	-0.05 (-1.63,1.54)	1 Hz rTMS at PT3 (left temporo-parietal cortex)				-0.18 (-0.94,0.57)			

***-2.01 (-3.70,-0.31)**	-1.13 (-2.48,0.22)	-1.11 (-2.67,0.46)	-1.10 (-2.86,0.66)	-0.66 (-2.08,0.76)	-0.40 (-1.87,1.08)	-0.27 (-1.54,1.00)	-0.24 (-1.50,1.01)	-0.31 (-2.12,1.50)	-0.25 (-2.10,1.61)	-0.21 (-1.58,1.16)	-0.20 (-1.85,1.46)	-0.20 (-1.86,1.47)	-0.05 (-1.81,1.72)	0.00 (-1.55,1.55)	1 Hz deep rTMS at PT3 (left temporo-parietal cortex)			-0.19 (-1.11,0.74)			
***-2.09 (-3.48,-0.70)**	***-1.22 (-2.15,-0.29)**	-1.19 (-2.42,0.03)	-1.19 (-2.65,0.28)	-0.75 (-1.78,0.28)	-0.48 (-1.59,0.63)	-0.36 (-1.17,0.46)	-0.33 (-1.11,0.45)	-0.40 (-1.92,1.13)	-0.33 (-1.91,1.24)	-0.29 (-1.25,0.66)	-0.28 (-1.62,1.05)	-0.28 (-1.63,1.07)	-0.13 (-1.60,1.34)	-0.09 (-1.29,1.12)	-0.09 (-1.52,1.35)	2 mA Anode tDCS at F3, cathode at F4		-0.09 (-0.54,0.37)			
***-2.38 (-4.13,-0.63)**	***-1.51 (-2.92,-0.10)**	-1.48 (-3.11,0.14)	-1.48 (-3.29,0.34)	-1.04 (-2.52,0.44)	-0.77 (-2.31,0.76)	-0.65 (-1.98,0.69)	-0.62 (-1.94,0.70)	-0.69 (-2.55,1.17)	-0.62 (-2.52,1.28)	-0.58 (-2.02,0.85)	-0.57 (-2.28,1.13)	-0.57 (-2.29,1.14)	-0.42 (-2.24,1.39)	-0.38 (-1.98,1.23)	-0.38 (-2.16,1.41)	-0.29 (-1.78,1.20)	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)	0.19 (-0.82,1.21)		-0.16 (-1.18,0.85)	
***-2.19 (-3.36,-1.02)**	***-1.32 (-1.88,-0.76)**	***-1.29 (-2.27,-0.31)**	***-1.28 (-2.55,-0.02)**	***-0.85 (-1.56,-0.13)**	-0.58 (-1.40,0.24)	***-0.45 (-0.79,-0.12)**	***-0.43 (-0.68,-0.18)**	-0.49 (-1.83,0.84)	-0.43 (-1.82,0.96)	-0.39 (-1.00,0.22)	-0.38 (-1.49,0.73)	-0.38 (-1.51,0.75)	-0.23 (-1.50,1.04)	-0.18 (-1.14,0.77)	-0.19 (-1.41,1.04)	-0.10 (-0.84,0.64)	0.19 (-1.10,1.49)	Sham	-0.05 (-0.54,0.44)	-0.36 (-1.41,0.70)	-0.35 (-0.97,0.28)
***-2.25 (-3.55,-0.94)**	***-1.37 (-2.17,-0.57)**	***-1.35 (-2.48,-0.21)**	-1.34 (-2.73,0.05)	-0.90 (-1.82,0.01)	-0.64 (-1.64,0.37)	-0.51 (-1.17,0.16)	-0.48 (-1.11,0.14)	-0.55 (-2.00,0.91)	-0.49 (-1.99,1.02)	-0.45 (-1.28,0.39)	-0.44 (-1.68,0.81)	-0.44 (-1.70,0.83)	-0.29 (-1.68,1.11)	-0.24 (-1.35,0.87)	-0.24 (-1.59,1.11)	-0.15 (-1.09,0.78)	0.14 (-1.28,1.55)	-0.05 (-0.63,0.52)	iTBS at Iz (vermal part of cerebellum)		
***-2.55 (-4.32,-0.78)**	***-1.67 (-3.11,-0.23)**	-1.65 (-3.29,0.00)	-1.64 (-3.47,0.19)	-1.20 (-2.71,0.30)	-0.94 (-2.50,0.62)	-0.81 (-2.18,0.56)	-0.79 (-2.13,0.56)	-0.85 (-2.73,1.03)	-0.79 (-2.71,1.14)	-0.75 (-2.21,0.71)	-0.74 (-2.47,0.99)	-0.74 (-2.48,1.00)	-0.59 (-2.42,1.25)	-0.54 (-2.17,1.09)	-0.54 (-2.35,1.26)	-0.45 (-1.97,1.06)	-0.16 (-1.46,1.13)	-0.36 (-1.68,0.97)	-0.30 (-1.74,1.14)	2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)	
***-2.54 (-4.09,-0.98)**	***-1.66 (-2.82,-0.50)**	***-1.64 (-3.05,-0.23)**	***-1.63 (-3.26,-0.01)**	-1.19 (-2.44,0.05)	-0.93 (-2.24,0.38)	-0.80 (-1.87,0.27)	-0.78 (-1.82,0.27)	-0.84 (-2.52,0.84)	-0.78 (-2.50,0.95)	-0.74 (-1.93,0.45)	-0.73 (-2.23,0.78)	-0.73 (-2.25,0.79)	-0.58 (-2.21,1.05)	-0.53 (-1.92,0.86)	-0.53 (-2.13,1.06)	-0.45 (-1.70,0.81)	-0.16 (-1.80,1.49)	-0.35 (-1.37,0.67)	-0.29 (-1.46,0.87)	0.01 (-1.66,1.68)	Theta-range rTMS at Iz (vermal part of cerebellum)

Pairwise (upper-right portion) and network (lower-left portion) meta-analysis results are presented as estimate effect sizes for the outcome of improvement of negative symptoms in patients with schizophrenia/schizoaffective disorder. Interventions are reported in order of mean ranking of improvement of negative symptoms, and outcomes are expressed as standardized mean difference (SMD) (95% confidence intervals). For the pairwise meta-analyses, SMD of less than 0 indicate that the treatment specified in the row got more improvement than that specified in the column. For the network meta-analysis (NMA), SMD of less than 0 indicate that the treatment specified in the column got more improvement than that specified in the row. Bold results marked with * indicate statistical significance.

eTable 6B: League table of the improvement of positive symptoms

6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3				-0.46 (-1.09,0.17)																	
-0.10 (-2.32,2.12)	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1												-0.65 (-1.74,0.43)								
-0.19 (-2.33,1.95)	-0.09 (-2.14,1.96)	2 mA Anode tDCS at F3, cathode at Fp2											-0.56 (-1.46,0.34)								
-0.36 (-2.51,1.80)	-0.26 (-2.32,1.81)	-0.17 (-2.14,1.81)	1 Hz deep rTMS at PT3 (left temporo-parietal cortex)										-0.40 (-1.33,0.54)								
-0.46 (-1.69,0.76)	-0.36 (-2.21,1.49)	-0.27 (-2.02,1.48)	-0.11 (-1.88,1.67)	1 Hz rTMS at PT3 (left temporo-parietal cortex)									-0.28 (-1.04,0.49)								
-0.46 (-2.47,1.54)	-0.36 (-2.28,1.55)	-0.27 (-2.09,1.54)	-0.11 (-1.94,1.72)	-0.00 (-1.59,1.58)	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2								-0.29 (-0.80,0.22)								
-0.49 (-2.68,1.70)	-0.39 (-2.49,1.72)	-0.30 (-2.31,1.72)	-0.13 (-2.16,1.90)	-0.03 (-1.84,1.79)	-0.02 (-1.90,1.85)	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)	-0.06 (-1.07,0.96)						-0.26 (-1.28,0.75)								
-0.55 (-2.75,1.66)	-0.44 (-2.56,1.68)	-0.35 (-2.39,1.68)	-0.19 (-2.24,1.86)	-0.08 (-1.92,1.75)	-0.08 (-1.97,1.81)	-0.06 (-1.52,1.41)	2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)						-0.21 (-1.26,0.84)								
-0.56 (-2.33,1.22)	-0.45 (-2.12,1.21)	-0.36 (-1.91,1.19)	-0.20 (-1.77,1.37)	-0.09 (-1.37,1.19)	-0.09 (-1.45,1.27)	-0.07 (-1.69,1.56)	-0.01 (-1.65,1.63)	iTBS at lz (vermal part of cerebellum)					-0.21 (-0.70,0.27)								
-0.59 (-2.37,1.20)	-0.48 (-2.16,1.19)	-0.39 (-1.96,1.17)	-0.23 (-1.81,1.35)	-0.12 (-1.42,1.17)	-0.12 (-1.50,1.25)	-0.10 (-1.73,1.54)	-0.04 (-1.69,1.61)	-0.03 (-1.03,0.97)	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)				-0.18 (-0.70,0.35)								
-0.64 (-2.48,1.20)	-0.54 (-2.28,1.20)	-0.45 (-2.08,1.18)	-0.28 (-1.93,1.37)	-0.18 (-1.55,1.20)	-0.18 (-1.63,1.28)	-0.15 (-1.85,1.55)	-0.10 (-1.81,1.62)	-0.09 (-1.19,1.02)	-0.06 (-1.18,1.07)	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)			-0.02 (-0.37,0.34)								
-0.70 (-2.36,0.96)	-0.60 (-2.14,0.94)	-0.51 (-1.93,0.91)	-0.34 (-1.79,1.10)	-0.24 (-1.36,0.88)	-0.24 (-1.45,0.97)	-0.21 (-1.71,1.28)	-0.16 (-1.68,1.36)	-0.15 (-0.91,0.62)	-0.12 (-0.90,0.67)	-0.06 (-0.98,0.85)	hf (10Hz) rTMS at left DLPFC (F3)		-0.03 (-0.21,0.14)						-0.94 (-2..80,0.93)		-1.73 (-4.41,0.94)
-0.70 (-2.80,1.39)	-0.60 (-2.60,1.40)	-0.51 (-2.42,1.40)	-0.35 (-2.27,1.58)	-0.24 (-1.94,1.45)	-0.24 (-2.00,1.52)	-0.21 (-2.18,1.75)	-0.16 (-2.14,1.83)	-0.15 (-1.63,1.34)	-0.12 (-1.62,1.38)	-0.06 (-1.63,1.51)	-0.00 (-1.35,1.35)	extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)	-0.05 (-0.84,0.74)								
-0.75 (-2.38,0.88)	-0.65 (-2.16,0.86)	-0.56 (-1.95,0.82)	-0.40 (-1.80,1.01)	-0.29 (-1.36,0.78)	-0.29 (-1.46,0.88)	-0.26 (-1.73,1.20)	-0.21 (-1.70,1.28)	-0.20 (-0.89,0.50)	-0.17 (-0.89,0.55)	-0.11 (-0.97,0.75)	-0.05 (-0.36,0.26)	-0.05 (-1.36,1.26)	Sham	-0.06 (-0.84,0.71)	-0.17 (-0.83,0.50)	-0.18 (-0.82,0.46)	-0.27 (-0.98,0.44)	-0.48 (-1.11,0.15)	-0.34 (-0.87,0.19)	-0.75 (-1.78,0.27)	-1.14 (-3.25,0.97)
-0.83 (-2.69,1.02)	-0.73 (-2.48,1.02)	-0.64 (-2.28,1.00)	-0.47 (-2.14,1.19)	-0.37 (-1.76,1.02)	-0.37 (-1.84,1.10)	-0.34 (-2.06,1.37)	-0.29 (-2.02,1.45)	-0.28 (-1.40,0.85)	-0.25 (-1.39,0.90)	-0.19 (-1.43,1.05)	-0.13 (-1.07,0.81)	-0.13 (-1.71,1.46)	-0.08 (-0.97,0.81)	2 mA Anode tDCS at F3, cathode at F4							

-0.92 (-2.97,1.13)	-0.82 (-2.78,1.14)	-0.73 (-2.59,1.13)	-0.56 (-2.44,1.32)	-0.46 (-2.10,1.19)	-0.45 (-2.16,1.25)	-0.43 (-2.35,1.49)	-0.37 (-2.31,1.57)	-0.36 (-1.79,1.06)	-0.33 (-1.77,1.11)	-0.28 (-1.79,1.24)	-0.22 (-1.50,1.07)	-0.22 (-2.03,1.59)	-0.17 (-1.41,1.08)	-0.09 (-1.62,1.44)	High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4						
-0.97 (-2.85,0.91)	-0.86 (-2.64,0.91)	-0.78 (-2.45,0.90)	-0.61 (-2.30,1.08)	-0.50 (-1.93,0.92)	-0.50 (-2.00,1.00)	-0.48 (-2.22,1.26)	-0.42 (-2.18,1.34)	-0.41 (-1.58,0.76)	-0.38 (-1.56,0.80)	-0.33 (-1.60,0.95)	-0.26 (-1.25,0.72)	-0.26 (-1.88,1.35)	-0.21 (-1.15,0.72)	-0.14 (-1.43,1.15)	-0.05 (-1.60,1.51)	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)					
-1.02 (-3.09,1.04)	-0.92 (-2.89,1.05)	-0.83 (-2.71,1.05)	-0.66 (-2.56,1.23)	-0.56 (-2.22,1.10)	-0.56 (-2.28,1.17)	-0.53 (-2.47,1.41)	-0.48 (-2.43,1.48)	-0.47 (-1.91,0.98)	-0.44 (-1.90,1.02)	-0.38 (-1.91,1.15)	-0.32 (-1.63,0.99)	-0.32 (-2.14,1.51)	-0.27 (-1.54,1.00)	-0.19 (-1.74,1.36)	-0.10 (-1.88,1.68)	-0.05 (-1.63,1.52)	1 Hz rTMS at right PFC (F4)				
-1.23 (-3.27,0.81)	-1.13 (-3.07,0.82)	-1.04 (-2.89,0.81)	-0.87 (-2.74,1.00)	-0.77 (-2.40,0.86)	-0.76 (-2.46,0.93)	-0.74 (-2.65,1.17)	-0.68 (-2.61,1.24)	-0.67 (-2.08,0.74)	-0.64 (-2.07,0.78)	-0.59 (-2.09,0.91)	-0.53 (-1.79,0.74)	-0.53 (-2.32,1.27)	-0.48 (-1.70,0.75)	-0.40 (-1.91,1.12)	-0.31 (-2.06,1.44)	-0.26 (-1.81,1.28)	-0.21 (-1.97,1.56)	Theta-range rTMS at Iz (vermal part of cerebellum)			
-1.13 (-2.81,0.55)	-1.03 (-2.59,0.54)	-0.94 (-2.38,0.51)	-0.77 (-2.24,0.70)	-0.66 (-1.82,0.49)	-0.66 (-1.90,0.58)	-0.64 (-2.16,0.89)	-0.58 (-2.13,0.96)	-0.57 (-1.38,0.24)	-0.54 (-1.38,0.29)	-0.49 (-1.44,0.47)	-0.43 (-0.90,0.05)	-0.42 (-1.80,0.95)	-0.37 (-0.79,0.04)	-0.30 (-1.28,0.68)	-0.21 (-1.52,1.11)	-0.16 (-1.18,0.86)	-0.11 (-1.44,1.23)	0.10 (-1.19,1.40)	extreme hf (20Hz) rTMS at left DLPFC (F3)		-0.25 (-0.77,0.28)
-1.51 (-3.70,0.69)	-1.41 (-3.51,0.70)	-1.32 (-3.33,0.70)	-1.15 (-3.19,0.89)	-1.04 (-2.86,0.77)	-1.04 (-2.92,0.84)	-1.02 (-3.09,1.06)	-0.96 (-3.05,1.13)	-0.95 (-2.58,0.67)	-0.92 (-2.56,0.72)	-0.87 (-2.57,0.84)	-0.80 (-2.31,0.70)	-0.80 (-2.77,1.17)	-0.75 (-2.22,0.72)	-0.68 (-2.39,1.04)	-0.59 (-2.51,1.34)	-0.54 (-2.28,1.20)	-0.49 (-2.43,1.46)	-0.28 (-2.19,1.64)	-0.38 (-1.91,1.15)	tVNS at left auricle	
***-1.81 (-3.60,-0.02)**	***-1.71 (-3.40,-0.03)**	***-1.62 (-3.19,-0.05)**	-1.46 (-3.05,0.14)	***-1.35 (-2.66,-0.05)**	-1.35 (-2.73,0.04)	-1.32 (-2.97,0.32)	-1.27 (-2.93,0.40)	***-1.26 (-2.28,-0.24)**	***-1.23 (-2.26,-0.19)**	***-1.17 (-2.31,-0.03)**	***-1.11 (-1.87,-0.35)**	-1.11 (-2.62,0.40)	***-1.06 (-1.80,-0.32)**	-0.98 (-2.14,0.18)	-0.89 (-2.34,0.56)	-0.85 (-2.04,0.35)	-0.79 (-2.26,0.68)	-0.58 (-2.02,0.85)	-0.69 (-1.45,0.08)	-0.31 (-1.95,1.34)	iTBS at left DLPFC (F3)

Pairwise (upper-right portion) and network (lower-left portion) meta-analysis results are presented as estimate effect sizes for the outcome of improvement of positive symptoms in patients with schizophrenia/schizoaffective disorder. Interventions are reported in order of mean ranking of improvement of positive symptoms, and outcomes are expressed as standardized mean difference (SMD) (95% confidence intervals). For the pairwise meta-analyses, SMD of less than 0 indicate that the treatment specified in the row got more improvement than that specified in the column. For the network meta-analysis (NMA), SMD of less than 0 indicate that the treatment specified in the column got more improvement than that specified in the row. Bold results marked with * indicate statistical significance.

eTable 6C: League table of the improvement of depressive symptoms

2 mA Anode tDCS at F3, cathode at Fp2										***-0.93 (-1.87,-0.00)**				
-0.14 (-1.33,1.05)	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2									***-0.79 (-1.32,-0.27)**				
-0.32 (-1.62,0.97)	-0.18 (-1.22,0.86)	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)								-0.61 (-1.35,0.12)				
-0.70 (-1.74,0.35)	-0.55 (-1.26,0.16)	-0.37 (-1.25,0.50)	hf (10Hz) rTMS at left DLPFC (F3)							-0.26 (-0.59,0.06)				
-0.75 (-1.90,0.40)	-0.61 (-1.46,0.24)	-0.43 (-1.42,0.56)	-0.05 (-0.71,0.60)	2 mA Anode tDCS at F3, cathode at F4						-0.06 (-1.12,1.00)				
-0.76 (-1.90,0.38)	-0.62 (-1.46,0.22)	-0.44 (-1.42,0.54)	-0.07 (-0.68,0.55)	-0.01 (-0.78,0.76)	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					-0.17 (-0.57,0.22)				
-0.78 (-1.85,0.28)	-0.64 (-1.38,0.10)	-0.46 (-1.36,0.44)	-0.09 (-0.57,0.40)	-0.03 (-0.68,0.62)	-0.02 (-0.67,0.63)	extreme hf (20Hz) rTMS at left DLPFC (F3)				-0.17 (-0.46,0.12)				
-0.79 (-2.03,0.45)	-0.65 (-1.61,0.32)	-0.47 (-1.56,0.63)	-0.09 (-0.88,0.69)	-0.04 (-0.95,0.87)	-0.03 (-0.93,0.87)	-0.01 (-0.81,0.80)	Theta-range rTMS at Iz (vermal part of cerebellum)			-0.14 (-0.76,0.48)				
-0.90 (-2.22,0.41)	-0.76 (-1.82,0.30)	-0.58 (-1.76,0.60)	-0.21 (-1.11,0.69)	-0.15 (-1.16,0.86)	-0.14 (-1.14,0.86)	-0.12 (-1.04,0.80)	-0.11 (-1.22,1.00)	20 Hz deep rTMS at left DLPFC (F3)		-0.03 (-0.79,0.73)				
-0.97 (-2.42,0.48)	-0.83 (-2.06,0.40)	-0.65 (-1.98,0.68)	-0.28 (-1.37,0.81)	-0.22 (-1.41,0.96)	-0.21 (-1.39,0.97)	-0.19 (-1.30,0.92)	-0.18 (-1.46,1.09)	-0.07 (-1.42,1.27)	tVNS at left auricle	0.04 (-0.94,1.02)				
-0.93 (-1.94,0.07)	***-0.79 (-1.43,-0.15)**	-0.61 (-1.43,0.21)	-0.24 (-0.54,0.07)	-0.18 (-0.74,0.37)	-0.17 (-0.71,0.37)	-0.15 (-0.51,0.21)	-0.14 (-0.87,0.58)	-0.03 (-0.87,0.81)	0.04 (-1.01,1.09)	Sham	-0.34 (-1.14,0.45)	-0.38 (-0.95,0.18)	-0.44 (-1.16,0.27)	***-0.73 (-1.30,-0.16)**
-1.28 (-2.61,0.05)	***-1.14 (-2.22,-0.05)**	-0.96 (-2.15,0.24)	-0.58 (-1.51,0.34)	-0.53 (-1.56,0.50)	-0.52 (-1.54,0.51)	-0.50 (-1.44,0.45)	-0.49 (-1.62,0.64)	-0.37 (-1.59,0.84)	-0.30 (-1.67,1.06)	-0.34 (-1.22,0.53)	extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)			
***-1.32 (-2.53,-0.11)**	***-1.17 (-2.11,-0.24)**	-0.99 (-2.06,0.07)	-0.62 (-1.36,0.12)	-0.57 (-1.44,0.31)	-0.56 (-1.42,0.31)	-0.53 (-1.30,0.23)	-0.53 (-1.52,0.46)	-0.41 (-1.49,0.67)	-0.34 (-1.59,0.90)	-0.38 (-1.06,0.29)	-0.04 (-1.14,1.07)	iTBS at Iz (vermal part of cerebellum)		
***-1.38 (-2.66,-0.09)**	***-1.23 (-2.26,-0.20)**	-1.05 (-2.20,0.10)	-0.68 (-1.54,0.18)	-0.63 (-1.60,0.35)	-0.61 (-1.58,0.35)	-0.59 (-1.47,0.29)	-0.59 (-1.67,0.50)	-0.47 (-1.64,0.69)	-0.40 (-1.72,0.92)	-0.44 (-1.25,0.36)	-0.10 (-1.28,1.09)	-0.06 (-1.11,0.99)	1 Hz rTMS at right PFC (F4)	
***-1.66 (-2.85,-0.48)**	***-1.52 (-2.42,-0.62)**	***-1.34 (-2.38,-0.31)**	***-0.97 (-1.67,-0.27)**	***-0.91 (-1.75,-0.08)**	***-0.90 (-1.73,-0.07)**	***-0.88 (-1.61,-0.16)**	-0.87 (-1.83,0.08)	-0.76 (-1.81,0.29)	-0.69 (-1.91,0.53)	***-0.73 (-1.36,-0.10)**	-0.39 (-1.46,0.69)	-0.35 (-1.27,0.58)	-0.29 (-1.31,0.73)	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)

Pairwise (upper-right portion) and network (lower-left portion) meta-analysis results are presented as estimate effect sizes for the outcome of improvement of depressive symptoms in patients with schizophrenia/schizoaffective disorder. Interventions are reported in order of mean ranking of improvement of depressive symptoms, and outcomes are expressed as standardized mean difference (SMD) (95% confidence intervals). For the pairwise meta-analyses, SMD of less than 0 indicate that the treatment specified in the row got more improvement than that specified in the column. For the network meta-analysis (NMA), SMD of less than 0 indicate that the treatment specified in the column got more improvement than that specified in the row. Bold results marked with * indicate statistical significance.

Abbreviation: 95%CI: 95% confidence interval; a-tDCS-F3 + c-tDCS-F4: 2 mA Anode tDCS at F3, cathode at F4; a-tDCS-F3 + c-tDCS-Fp2: 2 mA Anode tDCS at F3, cathode at Fp2; a-tDCS-F3 + c-tDCS-TP3: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ); a-tDCS-F3Fp1 + c-tDCS-F4Fp2: 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2; a-tDCS-F3Fp1 + c-tDCS-TP3: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ); a-tDCS-TP3 + c-tDCS-F3Fp1: 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ); DLPFC: dorsolateral prefrontal cortex; ehf-dTMS-F3: 20 Hz deep rTMS at left DLPFC (F3); ehf-rTMS-F3: extreme hf (20Hz) rTMS at left DLPFC (F3); ehf-rTMS-F3F4: extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4); hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1: High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1; hd-tRNS-AF3AF4F2F6FC4: High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4; hf-rTMS-F3: hf (10Hz) rTMS at left DLPFC (F3); hf-rTMS-F3F4: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4); iTBS: intermittent theta-burst stimulation; iTBS-F3: iTBS at left DLPFC (F3); iTBS-Iz : iTBS at Iz (vermal part of cerebellum); lf-dTMS-PT3: 1 Hz deep rTMS at PT3 (left temporo-parietal cortex); lf-rTMS-F4: 1 Hz rTMS at right PFC (F4); lf-rTMS-PT3: 1 Hz rTMS at PT3 (left temporo-parietal cortex); MRI: magnetic resonance imaging; NIBS:

noninvasive brain stimulation; NMA: network meta-analysis; OR: odds ratio; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses; prTMS-PT3 + lf-rTMS-PT3: 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3; RCT: randomized controlled trial; rTMS: repetitive transcranial magnetic stimulation; SMD: standardized mean difference; SUCRA: surface under the cumulative ranking curve; tACS-F3Fp1-TP3: 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ); TBS: theta-burst stimulation; tDCS: transcranial direct current stimulation; the-rTMS-Iz : Theta-range rTMS at Iz (vermal part of cerebellum); tRNS: transcranial random noise stimulation; tVNS: transcutaneous vegal nerve stimulation; tVNS: tVNS at left auricle; vmPFC: ventromedial prefrontal cortex; VTA: ventral tegmental area

eTable 7: Inconsistency of different intervention

Part 1: design-by-treatment and loop inconsistency model

Inconsistency model	chi^2	*p* value of Prob>chi^2
Negative symptoms		
design-by-treatment	2.91	0.7139
loop inconsistency	0.23	0.6347
Drop-out		
design-by-treatment	6.57	0.2549
loop inconsistency	0.18	0.6747
Positive symptoms		
design-by-treatment	6.47	0.1664
loop inconsistency	0.55	0.4603
Depressive symptoms		
design-by-treatment	2.13	0.1448
loop inconsistency	2.13	0.1448

Part 2: side-splitting inconsistency model:

Part of negative symptoms

Side	symmetric		nosymmetric		Treatments used
	P>z	tau	P>z	tau	

A B *	0.62	0.418279	.	.	A (reference):	Sham
A C	.	.	.	.	B:	hf (10Hz) rTMS at left DLPFC (F3)
A D *	0.67	0.419488	.	.	C:	extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)
A E	.	.	.	.	D:	extreme hf (20Hz) rTMS at left DLPFC (F3)
A F	.	.	.	.	E:	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)
A G	.	.	.	.	F:	High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4
A H	.	.	.	.	G:	2 mA Anode tDCS at F3, cathode at F4
A I *	0.999	0.409625	0.999	0.409625	H:	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1
A K	.	.	.	.	I:	1 Hz rTMS at PT3 (left temporo-parietal cortex)
A L	.	.	.	.	J:	6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3
A M	.	.	.	.	K:	iTBS at Iz (vermal part of cerebellum)
A N	.	.	.	.	L:	1 Hz deep rTMS at PT3 (left temporo-parietal cortex)
A O *	0.131	0.396291	.	.	M:	20 Hz deep rTMS at left DLPFC (F3)
A P	.	.	.	.	N:	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)
A Q	.	.	.	.	O:	iTBS at left DLPFC (F3)
A R	.	.	.	.	P:	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)
A S	.	.	.	.	Q:	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2
A T	.	.	.	.	R:	2 mA Anode tDCS at F3, cathode at Fp2

A U	.	.	.	.	S:	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)
A V	.	.	.	.	T:	2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)
A W	.	.	.	.	U:	1 Hz rTMS at right PFC (F4)
B D	0.557	0.416803	0.978	0.423767	V:	Theta-range rTMS at Iz (vermal part of cerebellum)
B O	0.145	0.39596	0.284	0.406818	W:	tVNS at left auricle
D O	0.425	0.418696	0.284	0.406818		
I J *	0.999	0.409625	.	.		
S T	.	.	.	.		

Part of drop-out

Side	symmetric		nosymmetric		Treatments used	
	P>z	tau	P>z	tau		
A B *	0.141	1.34E-08	.	.	A (reference):	Sham
A C	.	.	.	.	B:	hf (10Hz) rTMS at left DLPFC (F3)
A D *	0.376	0.031901	.	.	C:	tVNS at left auricle
A E	.	.	.	.	D:	extreme hf (20Hz) rTMS at left DLPFC (F3)
A F	.	.	.	.	E:	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)
A G	.	.	.	.	F:	High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4
A H	.	.	.	.	G:	2 mA Anode tDCS at F3, cathode at F4
A I *	1	1.58E-08	1	1.58E-08	H:	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1
A K	.	.	.	.	I:	1 Hz rTMS at PT3 (left temporo-parietal cortex)

A L	.	.	.	.	J:	6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3
A M	.	.	.	.	K:	iTBS at Iz (vermal part of cerebellum)
A N	.	.	.	.	L:	1 Hz deep rTMS at PT3 (left temporo-parietal cortex)
A O *	0.396	3.19E-06	.	.	M:	Theta-range rTMS at Iz (vermal part of cerebellum)
A P	.	.	.	.	N:	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)
A Q	.	.	.	.	O:	iTBS at left DLPFC (F3)
A R	.	.	.	.	P:	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)
A S	.	.	.	.	Q:	1 Hz rTMS at right PFC (F4)
A T	.	.	.	.	R:	2 mA Anode tDCS at F3, cathode at Fp2
B D	0.129	6.92E-08	0.086	3.36E-09	S:	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)
B O	0.683	1.21E-07	0.564	2.50E-07	T:	2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)
D O	0.96	0.038226	0.564	2.50E-07		
I J *	1	2.31E-06	.	.		
S T	.	.	.	.		

Part of positive symptoms

Side	symmetric		nosymmetric		Treatments used	
	P>z	tau	P>z	tau		
A B *	0.168	0.528915	.	.	A (reference):	Sham
A C	.	.	.	.	B:	hf (10Hz) rTMS at left DLPFC (F3)

A D *	0.281	0.543098	.	.	C:	extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)
A E	.	.	.	.	D:	extreme hf (20Hz) rTMS at left DLPFC (F3)
A F	.	.	.	.	E:	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)
A G	.	.	.	.	F:	High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4
A H	.	.	.	.	G:	2 mA Anode tDCS at F3, cathode at F4
A I *	0.999	0.537492	0.999	0.537492	H:	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1
A K	.	.	.	.	I:	1 Hz rTMS at PT3 (left temporo-parietal cortex)
A L	.	.	.	.	J:	6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3
A M	.	.	.	.	K:	iTBS at Iz (vermal part of cerebellum)
A N	.	.	.	.	L:	1 Hz deep rTMS at PT3 (left temporo-parietal cortex)
A O *	0.873	0.552889	.	.	M:	tVNS at left auricle
A P	.	.	.	.	N:	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)
A Q	.	.	.	.	O:	iTBS at left DLPFC (F3)
A R	.	.	.	.	P:	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)
A S	.	.	.	.	Q:	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2
A T	.	.	.	.	R:	2 mA Anode tDCS at F3, cathode at Fp2
A U	.	.	.	.	S:	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)

A V	.	.	.	.	T:	2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)
B D *	0.135	0.528979	0.168	0.528915	U:	1 Hz rTMS at right PFC (F4)
B O *	0.033	0.498043	.	.	V:	Theta-range rTMS at Iz (vermal part of cerebellum)
D O *	0.033	0.495534	.	.		
I J *	0.999	0.537492	.	.		
S T	.	.	.	.		

Part of depressive symptoms

Side	symmetric		nosymmetric		Treatments used	
	P>z	tau	P>z	tau		
A B	.	.	.	.	A (reference):	Sham
A C	.	.	.	.	B:	hf (10Hz) rTMS at left DLPFC (F3)
A D	.	.	.	.	C:	extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)
A E	.	.	.	.	D:	extreme hf (20Hz) rTMS at left DLPFC (F3)
A F	.	.	.	.	E:	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)
A G	.	.	.	.	F:	tVNS at left auricle
A H	.	.	.	.	G:	2 mA Anode tDCS at F3, cathode at F4
A I	.	.	.	.	H:	Theta-range rTMS at Iz (vermal part of cerebellum)
A J	.	.	.	.	I:	1 Hz rTMS at right PFC (F4)
A K	.	.	.	.	J:	2 mA Anode tDCS at F3, cathode at Fp2
A L	.	.	.	.	K:	iTBS at Iz (vermal part of cerebellum)
A M	.	.	.	.	L:	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2

A N	.	.	.	.	M:	20 Hz deep rTMS at left DLPFC (F3)
A O	.	.	.	.	N:	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)
					O:	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)

Abbreviation: 95%CI: 95% confidence interval; a-tDCS-F3 + c-tDCS-F4: 2 mA Anode tDCS at F3, cathode at F4; a-tDCS-F3 + c-tDCS-Fp2: 2 mA Anode tDCS at F3, cathode at Fp2; a-tDCS-F3 + c-tDCS-TP3: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ); a-tDCS-F3Fp1 + c-tDCS-F4Fp2: 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2; a-tDCS-F3Fp1 + c-tDCS-TP3: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ); a-tDCS-TP3 + c-tDCS-F3Fp1: 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ); DLPFC: dorsolateral prefrontal cortex; ehf-dTMS-F3: 20 Hz deep rTMS at left DLPFC (F3); ehf-rTMS-F3: extreme hf (20Hz) rTMS at left DLPFC (F3); ehf-rTMS-F3F4: extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4); hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1: High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1; hd-tRNS-AF3AF4F2F6FC4: High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4; hf-rTMS-F3: hf (10Hz) rTMS at left DLPFC (F3); hf-rTMS-F3F4: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4); iTBS: intermittent theta-burst stimulation; iTBS-F3: iTBS at left DLPFC (F3); iTBS-Iz : iTBS at Iz (vermal part of cerebellum); lf-dTMS-PT3: 1 Hz deep rTMS at PT3 (left temporo-parietal cortex); lf-rTMS-F4: 1 Hz rTMS at right PFC (F4); lf-rTMS-PT3: 1 Hz rTMS at PT3 (left temporo-parietal cortex); MRI: magnetic resonance imaging; NIBS: noninvasive brain stimulation; NMA: network meta-analysis; OR: odds ratio; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses; prTMS-PT3 + lf-rTMS-PT3: 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3; RCT: randomized controlled trial; rTMS: repetitive transcranial magnetic stimulation; SMD: standardized mean difference; SUCRA: surface under the cumulative ranking curve; tACS-F3Fp1-TP3: 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ); TBS: theta-burst stimulation; tDCS: transcranial direct current stimulation; the-rTMS-Iz : Theta-range rTMS at Iz (vermal part of cerebellum); tRNS: transcranial random noise stimulation; tVNS: transcutaneous vegal nerve stimulation; tVNS: tVNS at left auricle; vmPFC: ventromedial prefrontal cortex; VTA: ventral tegmental area

eTable 8A: Estimated between-studies standard deviation of different outcome

Outcome	Estimated between-studies standard deviation	
Negative symptoms	0.4096253	
Drop-out	8.815e-08	
Positive symptoms	0.53749165	
Depressive symptoms	0.18797808	

eTable 8B: Estimated between-treatment heterogeneity

Negative symptoms

			Heterogeneity statistic	degrees of freedom	p value	I-squared	Tau-squared	Treatments used	
B	-	A	45.98	15	0	67.40%	0.1645	A:	Sham
C	-	A	0	0	.	.%	0	B:	hf-rTMS-F3
D	-	A	23.8	7	0.001	70.60%	0.2051	C:	ehf-rTMS-F3F4
E	-	A	4.98	1	0.026	79.90%	0.7871	D:	ehf-rTMS-F3
F	-	A	0	0	.	.%	0	E:	ehf-rTMS-F3hf-rTMS-F3F4
G	-	A	0.04	1	0.84	0.00%	0	F:	hd-tRNS-AF3AF4F2F6FC4
H	-	A	0	0	.	.%	0	G:	a-tDCS-F3 + c-tDCS-F4
J	-	I	0	0	.	.%	0	H:	hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1
K	-	A	4.32	2	0.116	53.70%	0.1019	I:	lf-rTMS-PT3
D	-	B	0.58	2	0.748	0.00%	0	J:	prTMS-PT3 + lf-rTMS-PT3

L	-	A	0	0	.	.%	0	K:	iTBS-Iz
M	-	A	0	0	.	.%	0	L:	lf-dTMS-PT3
N	-	A	0.29	1	0.593	0.00%	0	M:	ehf-dTMS-F3
I	-	A	0	1	0.989	0.00%	0	N:	a-tDCS-F3 + c-tDCS-TP3
O	-	A	23.15	2	0	91.40%	1.6843	O:	iTBS-F3
O	-	B	3.16	1	0.075	68.40%	0.2133	P:	a-tDCS-F3Fp1 + c-tDCS-TP3
O	-	D	1.08	1	0.299	7.20%	0.0077	Q:	a-tDCS-F3Fp1 + c-tDCS-F4Fp2
P	-	A	7.36	2	0.025	72.80%	0.3233	R:	a-tDCS-F3 + c-tDCS-Fp2
Q	-	A	0	0	.	.%	0	S:	tACS-F3Fp1-TP3
R	-	A	0	0	.	.%	0	T:	a-tDCS-TP3 + c-tDCS-F3Fp1
S	-	A	0	0	.	.%	0	U:	lf-rTMS-F4
T	-	A	0	0	.	.%	0	V:	the-rTMS-Iz
T	-	S	0	0	.	.%	0	W:	tVNS
U	-	A	0	0	.	.%	0		
V	-	A	0	0	.	.%	0		
W	-	A	0	0	.	.%	0		

Drop-out

			Heterogeneity statistic	degrees of freedom	p value	I-squared	Tau-squared	Treatments used	
B	-	A	2.57	7	0.921	0.00%	0	A:	Sham
D	-	A	9.23	7	0.236	24.20%	0.1741	B:	hf-rTMS-F3

E	-	A	0	0	.	.%	0	C:	tVNS
F	-	A	0	0	.	.%	0	D:	ehf-rTMS-F3
G	-	A	0	0	.	.%	0	E:	ehf-rTMS-F3hf-rTMS-F3F4
H	-	A	0	0	.	.%	0	F:	hd-tRNS-AF3AF4F2F6FC4
J	-	I	0	0	.	.%	0	G:	a-tDCS-F3 + c-tDCS-F4
K	-	A	0.69	2	0.709	0.00%	0	H:	hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1
D	-	B	0.05	2	0.974	0.00%	0	I:	lf-rTMS-PT3
L	-	A	0	0	.	.%	0	J:	prTMS-PT3 + lf-rTMS-PT3
O	-	A	0.67	2	0.715	0.00%	0	K:	iTBS-Iz
O	-	B	0	1	0.983	0.00%	0	L:	lf-dTMS-PT3
O	-	D	0.06	1	0.81	0.00%	0	M:	the-rTMS-Iz
N	-	A	0	0	.	.%	0	N:	a-tDCS-F3 + c-tDCS-TP3
P	-	A	0	0	.	.%	0	O:	iTBS-F3
R	-	A	0	0	.	.%	0	P:	a-tDCS-F3Fp1 + c-tDCS-TP3
S	-	A	0	0	.	.%	0	Q:	lf-rTMS-F4
T	-	A	0	0	.	.%	0	R:	a-tDCS-F3 + c-tDCS-Fp2
T	-	S	0	0	.	.%	0	S:	tACS-F3Fp1-TP3
Q	-	A	0	0	.	.%	0	T:	a-tDCS-TP3 + c-tDCS-F3Fp1
M	-	A	0	0	.	.%	0		
I	-	A	0	0	.	.%	0		
C	-	A	0	0	.	.%	0		

Positive symptoms

			Heterogeneity statistic	degrees of freedom	p value	I-squared	Tau-squared	Treatments used	
B	-	A	20.66	14	0.111	32.20%	0.0366	A:	Sham
C	-	A	0	0	.	.%	0	B:	hf-rTMS-F3
D	-	A	46.38	7	0	84.90%	0.4788	C:	ehf-rTMS-F3F4
E	-	A	1.3	1	0.254	23.20%	0.0518	D:	ehf-rTMS-F3
F	-	A	0	0	.	.%	0	E:	ehf-rTMS-F3hf-rTMS-F3F4
G	-	A	2.5	1	0.114	60.00%	0.1923	F:	hd-tRNS-AF3AF4F2F6FC4
H	-	A	0	0	.	.%	0	G:	a-tDCS-F3 + c-tDCS-F4
J	-	I	0	0	.	.%	0	H:	hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1
K	-	A	4.15	2	0.126	51.80%	0.0949	I:	lf-rTMS-PT3
D	-	B	59.14	2	0	96.60%	2.6174	J:	prTMS-PT3 + lf-rTMS-PT3
L	-	A	0	0	.	.%	0	K:	iTBS-Iz
N	-	A	0.83	1	0.363	0.00%	0	L:	lf-dTMS-PT3
I	-	A	0.16	1	0.691	0.00%	0	M:	tVNS
O	-	A	20.24	1	0	95.10%	2.2097	N:	a-tDCS-F3 + c-tDCS-TP3
O	-	B	30.12	1	0	96.70%	3.6089	O:	iTBS-F3
O	-	D	1.49	1	0.222	32.80%	0.0477	P:	a-tDCS-F3Fp1 + c-tDCS-TP3
P	-	A	3.71	2	0.156	46.10%	0.0989	Q:	a-tDCS-F3Fp1 + c-tDCS-F4Fp2
Q	-	A	0	0	.	.%	0	R:	a-tDCS-F3 + c-tDCS-Fp2
R	-	A	0	0	.	.%	0	S:	tACS-F3Fp1-TP3

S	-	A	0	0	.	.%	0	T:	a-tDCS-TP3 + c-tDCS-F3Fp1
T	-	A	0	0	.	.%	0	U:	lf-rTMS-F4
T	-	S	0	0	.	.%	0	V:	the-rTMS-Iz
U	-	A	0	0	.	.%	0		
V	-	A	0	0	.	.%	0		
M	-	A	0	0	.	.%	0		

Depressive symptoms

			Heterogeneity statistic	degrees of freedom	p value	I-squared	Tau-squared	Treatments used	
B	-	A	10.27	6	0.114	41.60%	0.0729	A:	Sham
C	-	A	0	0	.	.%	0	B:	hf-rTMS-F3
D	-	A	0.44	3	0.932	0.00%	0	C:	ehf-rTMS-F3F4
E	-	A	0.02	1	0.896	0.00%	0	D:	ehf-rTMS-F3
G	-	A	4.58	1	0.032	78.20%	0.4637	E:	ehf-rTMS-F3hf-rTMS-F3F4
M	-	A	0	0	.	.%	0	F:	tVNS
N	-	A	0	0	.	.%	0	G:	a-tDCS-F3 + c-tDCS-F4
L	-	A	0	0	.	.%	0	H:	the-rTMS-Iz
O	-	A	0	0	.	.%	0	I:	lf-rTMS-F4
K	-	A	0	0	.	.%	0	J:	a-tDCS-F3 + c-tDCS-Fp2
J	-	A	0	0	.	.%	0	K:	iTBS-Iz
I	-	A	0	0	.	.%	0	L:	a-tDCS-F3Fp1 + c-tDCS-F4Fp2

H	-	A	0	0	.	.%	0	M:	ehf-dTMS-F3
F	-	A	0	0	.	.%	0	N:	a-tDCS-F3 + c-tDCS-TP3
								O:	a-tDCS-F3Fp1 + c-tDCS-TP3

Abbreviation: 95%CI: 95% confidence interval; a-tDCS-F3 + c-tDCS-F4: 2 mA Anode tDCS at F3, cathode at F4; a-tDCS-F3 + c-tDCS-Fp2: 2 mA Anode tDCS at F3, cathode at Fp2; a-tDCS-F3 + c-tDCS-TP3: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ); a-tDCS-F3Fp1 + c-tDCS-F4Fp2: 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2; a-tDCS-F3Fp1 + c-tDCS-TP3: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ); a-tDCS-TP3 + c-tDCS-F3Fp1: 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ); DLPFC: dorsolateral prefrontal cortex; ehf-dTMS-F3: 20 Hz deep rTMS at left DLPFC (F3); ehf-rTMS-F3: extreme hf (20Hz) rTMS at left DLPFC (F3); ehf-rTMS-F3F4: extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4); hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1: High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1; hd-tRNS-AF3AF4F2F6FC4: High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4; hf-rTMS-F3: hf (10Hz) rTMS at left DLPFC (F3); hf-rTMS-F3F4: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4); iTBS: intermittent theta-burst stimulation; iTBS-F3: iTBS at left DLPFC (F3); iTBS-Iz : iTBS at Iz (vermal part of cerebellum); lf-dTMS-PT3: 1 Hz deep rTMS at PT3 (left temporo-parietal cortex); lf-rTMS-F4: 1 Hz rTMS at right PFC (F4); lf-rTMS-PT3: 1 Hz rTMS at PT3 (left temporo-parietal cortex); MRI: magnetic resonance imaging; NIBS: noninvasive brain stimulation; NMA: network meta-analysis; OR: odds ratio; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses; prTMS-PT3 + lf-rTMS-PT3: 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3; RCT: randomized controlled trial; rTMS: repetitive transcranial magnetic stimulation; SMD: standardized mean difference; SUCRA: surface under the cumulative ranking curve; tACS-F3Fp1-TP3: 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ); TBS: theta-burst stimulation; tDCS: transcranial direct current stimulation; the-rTMS-Iz : Theta-range rTMS at Iz (vermal part of cerebellum); tRNS: transcranial random noise stimulation; tVNS: transcutaneous vegal nerve stimulation; tVNS: tVNS at left auricle; vmPFC: ventromedial prefrontal cortex; VTA: ventral tegmental area

eTable 9A: Quality of evidence for primary outcome: Change in negative symptoms

Comparisons	Direct evidence		Indirect evidence		Network meta-analysis	
	Standardized mean difference (95% CI)	The final rating of direct evidence	Co-efficiency (Standard error)	The final rating of indirect evidence	Standardized mean difference (95% CI)	Overall quality of evidence
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs iTBS at left DLPFC (F3)					-0.87 (-2.18,0.43)	⊕◯◯◯ very low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2					-0.90 (-2.43,0.63)	⊕◯◯◯ very low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 2 mA Anode tDCS at F3, cathode at Fp2					-0.91 (-2.63,0.82)	⊕◯◯◯ very low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					-1.34 (-2.72,0.03)	⊕◯◯◯ very low

High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)					***-1.61 (-3.04,-0.18)**	⊕⊕◯◯ low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs extreme hf (20Hz) rTMS at left DLPFC (F3)					***-1.74 (-2.96,-0.51)**	⊕⊕◯◯ low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs hf (10Hz) rTMS at left DLPFC (F3)					***-1.76 (-2.96,-0.56)**	⊕⊕◯◯ low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					-1.70 (-3.48,0.08)	⊕◯◯◯ very low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 6 Hz priming rTMS at PT3					-1.76 (-3.58,0.06)	⊕◯◯◯ very low

(left temporo-parietal cortex) + 1 Hz rTMS at PT3						
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					***-1.80 (-3.12,-0.48)**	⊕⊕◯◯ low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 20 Hz deep rTMS at left DLPFC (F3)					***-1.81 (-3.42,-0.19)**	⊕⊕◯◯ low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)					***-1.81 (-3.44,-0.18)**	⊕⊕◯◯ low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs tVNS at left auricle					***-1.96 (-3.69,-0.23)**	⊕⊕◯◯ low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 1 Hz					***-2.01 (-3.70,-0.31)**	⊕⊕◯◯ low

deep rTMS at PT3 (left temporo-parietal cortex)						
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					***-2.01 (-3.52,-0.50)**	⊕⊕◯◯ low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 2 mA Anode tDCS at F3, cathode at F4					***-2.09 (-3.48,-0.70)**	⊕⊕◯◯ low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					***-2.38 (-4.13,-0.63)**	⊕⊕◯◯ low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs Sham	***-2.19 (-3.05,-1.33)**	⊕⊕◯◯ low			***-2.19 (-3.36,-1.02)**	⊕⊕⊕◯ medium
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs iTBS at Iz (vermal part of cerebellum)					***-2.25 (-3.55,-0.94)**	⊕⊕◯◯ low

High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					***-2.55 (-4.32,-0.78)**	⊕⊕◯◯ low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 1 Hz rTMS at right PFC (F4)					***-2.53 (-4.12,-0.94)**	⊕⊕◯◯ low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs Theta-range rTMS at Iz (vermal part of cerebellum)					***-2.54 (-4.09,-0.98)**	⊕⊕◯◯ low
iTBS at left DLPFC (F3) vs 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2					-0.02 (-1.15,1.10)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at Fp2					-0.03 (-1.42,1.35)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					-0.47 (-1.38,0.44)	⊕⊕◯◯ low
iTBS at left DLPFC (F3) vs hf (10Hz)					-0.74 (-1.73,0.26)	⊕⊕◯◯ low

rTMS at left PFC (F3) and right PFC (F4)						
iTBS at left DLPFC (F3) vs extreme hf (20Hz) rTMS at left DLPFC (F3)	***-0.74 (-1.19,-0.28)**	⊕⊕⊕◯ medium	-1.21 (0.53)	⊕⊕⊕◯ medium	***-0.86 (-1.46,-0.27)**	⊕⊕⊕⊕ high
iTBS at left DLPFC (F3) vs hf (10Hz) rTMS at left DLPFC (F3)	-0.60 (-1.37,0.17)	⊕◯◯◯ very low	-1.43 (0.47)	⊕⊕⊕◯ medium	***-0.89 (-1.46,-0.31)**	⊕⊕⊕⊕ high
iTBS at left DLPFC (F3) vs High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					-0.82 (-2.27,0.63)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					-0.89 (-2.38,0.61)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					***-0.92 (-1.75,-0.10)**	⊕⊕⊕◯ medium
iTBS at left DLPFC (F3) vs 20 Hz deep rTMS at left DLPFC (F3)					-0.93 (-2.18,0.31)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs extreme hf					-0.93 (-2.19,0.33)	⊕◯◯◯ very low

(20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)						
iTBS at left DLPFC (F3) vs tVNS at left auricle					-1.08 (-2.47,0.30)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					-1.13 (-2.48,0.22)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					***-1.13 (-2.23,-0.03)**	⊕⊕◯◯ low
iTBS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at F4					***-1.22 (-2.15,-0.29)**	⊕⊕⊕◯ medium
iTBS at left DLPFC (F3) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					***-1.51 (-2.92,-0.10)**	⊕⊕◯◯ low
iTBS at left DLPFC (F3) vs Sham	***-1.62 (-3.17,-0.08)**	⊕⊕◯◯ low	-0.58 (0.56)	⊕⊕⊕◯ medium	***-1.32 (-1.88,-0.76)**	⊕⊕⊕⊕ high
iTBS at left DLPFC (F3) vs iTBS at Iz (vermal part of cerebellum)					***-1.37 (-2.17,-0.57)**	⊕⊕⊕◯ medium
iTBS at left DLPFC (F3) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					***-1.67 (-3.11,-0.23)**	⊕⊕◯◯ low

iTBS at left DLPFC (F3) vs 1 Hz rTMS at right PFC (F4)					***-1.66 (-2.87,-0.45)**	⊕⊕◯◯ low
iTBS at left DLPFC (F3) vs Theta-range rTMS at Iz (vermal part of cerebellum)					***-1.66 (-2.82,-0.50)**	⊕⊕◯◯ low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs 2 mA Anode tDCS at F3, cathode at Fp2					-0.01 (-1.61,1.59)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					-0.44 (-1.66,0.77)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)					-0.71 (-1.99,0.57)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs extreme hf (20Hz) rTMS at left DLPFC (F3)					-0.84 (-1.87,0.20)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs hf (10Hz) rTMS at left DLPFC (F3)					-0.86 (-1.87,0.15)	⊕⊕◯◯ low

2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					-0.80 (-2.45,0.86)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					-0.86 (-2.56,0.84)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					-0.90 (-2.05,0.25)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs 20 Hz deep rTMS at left DLPFC (F3)					-0.91 (-2.39,0.57)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)					-0.91 (-2.40,0.58)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at					-1.06 (-2.66,0.54)	⊕◯◯◯ very low

F4Fp2 vs tVNS at left auricle						
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					-1.11 (-2.67,0.46)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					-1.11 (-2.47,0.26)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs 2 mA Anode tDCS at F3, cathode at F4					-1.19 (-2.42,0.03)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-1.48 (-3.11,0.14)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs Sham	***-1.29 (-1.85,-0.73)**	⊕⊕⊕◯ medium			***-1.29 (-2.27,-0.31)**	⊕⊕⊕⊕ high
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs iTBS at Iz (vermal part of cerebellum)					***-1.35 (-2.48,-0.21)**	⊕⊕◯◯ low
2 mA Anode tDCS at F3Fp1, cathode at					-1.65 (-3.29,0.00)	⊕◯◯◯ very low

F4Fp2 vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)						
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs 1 Hz rTMS at right PFC (F4)					***-1.63 (-3.08,-0.18)**	⊕⊕◯◯ low
2 mA Anode tDCS at F3Fp1, cathode at F4Fp2 vs Theta-range rTMS at Iz (vermal part of cerebellum)					***-1.64 (-3.05,-0.23)**	⊕⊕◯◯ low
2 mA Anode tDCS at F3, cathode at Fp2 vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					-0.44 (-1.89,1.02)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)					-0.70 (-2.22,0.81)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs extreme hf (20Hz) rTMS at left DLPFC (F3)					-0.83 (-2.14,0.48)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs hf (10Hz) rTMS at left DLPFC (F3)					-0.86 (-2.15,0.44)	⊕◯◯◯ very low

2 mA Anode tDCS at F3, cathode at Fp2 vs High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					-0.79 (-2.63,1.05)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					-0.85 (-2.74,1.03)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					-0.89 (-2.30,0.51)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 20 Hz deep rTMS at left DLPFC (F3)					-0.90 (-2.59,0.78)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)					-0.90 (-2.60,0.80)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs tVNS at left auricle					-1.05 (-2.85,0.74)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 1 Hz deep rTMS at					-1.10 (-2.86,0.66)	⊕◯◯◯ very low

PT3 (left temporo-parietal cortex)						
2 mA Anode tDCS at F3, cathode at Fp2 vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					-1.10 (-2.69,0.48)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 2 mA Anode tDCS at F3, cathode at F4					-1.19 (-2.65,0.28)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-1.48 (-3.29,0.34)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs Sham	***-1.29 (-2.27,-0.30)**	⊕⊕◯◯ low			***-1.28 (-2.55,-0.02)**	⊕⊕⊕◯ medium
2 mA Anode tDCS at F3, cathode at Fp2 vs iTBS at Iz (vermal part of cerebellum)					-1.34 (-2.73,0.05)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-1.64 (-3.47,0.19)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 1 Hz rTMS at right PFC (F4)					-1.63 (-3.29,0.03)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs					***-1.63 (-3.26,-0.01)**	⊕⊕◯◯ low

Theta-range rTMS at Iz (vermal part of cerebellum)						
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)					-0.27 (-1.36,0.82)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs extreme hf (20Hz) rTMS at left DLPFC (F3)					-0.39 (-1.18,0.40)	⊕⊕◯◯ low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs hf (10Hz) rTMS at left DLPFC (F3)					-0.42 (-1.17,0.34)	⊕⊕◯◯ low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					-0.35 (-1.87,1.16)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					-0.42 (-1.98,1.15)	⊕◯◯◯ very low

2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					-0.45 (-1.39,0.48)	⊕⊕◯◯ low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs 20 Hz deep rTMS at left DLPFC (F3)					-0.47 (-1.79,0.85)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)					-0.46 (-1.80,0.87)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs tVNS at left auricle					-0.61 (-2.07,0.84)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					-0.66 (-2.08,0.76)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					-0.66 (-1.85,0.53)	⊕◯◯◯ very low

2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs 2 mA Anode tDCS at F3, cathode at F4					-0.75 (-1.78,0.28)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-1.04 (-2.52,0.44)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs Sham	***-0.89 (-1.27,-0.52)**	⊕⊕⊕◯ medium			***-0.85 (-1.56,-0.13)**	⊕⊕⊕⊕ high
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs iTBS at Iz (vermal part of cerebellum)					-0.90 (-1.82,0.01)	⊕⊕◯◯ low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-1.20 (-2.71,0.30)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs 1 Hz rTMS at right PFC (F4)					-1.19 (-2.48,0.10)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at TP3 (left TPJ) vs Theta-range rTMS at Iz					-1.19 (-2.44,0.05)	⊕◯◯◯ very low

(vermal part of cerebellum)						
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs extreme hf (20Hz) rTMS at left DLPFC (F3)					-0.13 (-1.02,0.76)	⊕⊕◯◯ low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs hf (10Hz) rTMS at left DLPFC (F3)					-0.15 (-1.01,0.71)	⊕⊕◯◯ low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					-0.09 (-1.66,1.48)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					-0.15 (-1.77,1.47)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					-0.19 (-1.21,0.84)	⊕◯◯◯ very low

hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 20 Hz deep rTMS at left DLPFC (F3)					-0.20 (-1.58,1.18)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)					-0.20 (-1.59,1.20)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs tVNS at left auricle					-0.35 (-1.86,1.17)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					-0.40 (-1.87,1.08)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					-0.40 (-1.65,0.86)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 2 mA Anode tDCS at F3, cathode at F4					-0.48 (-1.59,0.63)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right					-0.77 (-2.31,0.76)	⊕◯◯◯ very low

PFC (F4) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)						
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs Sham	-0.67 (-2.04,0.70)	⊕◯◯◯ very low			-0.58 (-1.40,0.24)	⊕⊕◯◯ low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs iTBS at Iz (vermal part of cerebellum)					-0.64 (-1.64,0.37)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-0.94 (-2.50,0.62)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 1 Hz rTMS at right PFC (F4)					-0.92 (-2.27,0.43)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs Theta-range rTMS at Iz (vermal part of cerebellum)					-0.93 (-2.24,0.38)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs hf (10Hz) rTMS at left DLPFC (F3)	0.09 (-0.22,0.39)	⊕⊕◯◯ low	-0.13 (0.27)	⊕⊕⊕◯ medium	-0.02 (-0.41,0.36)	⊕⊕⊕⊕ high

extreme hf (20Hz) rTMS at left DLPFC (F3) vs High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					0.04 (-1.34,1.42)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					-0.02 (-1.46,1.41)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					-0.06 (-0.76,0.63)	⊕⊕◯◯ low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 20 Hz deep rTMS at left DLPFC (F3)					-0.07 (-1.23,1.09)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)					-0.07 (-1.25,1.11)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC					-0.22 (-1.54,1.09)	⊕◯◯◯ very low

(F3) vs tVNS at left auricle						
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					-0.27 (-1.54,1.00)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					-0.27 (-1.28,0.74)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at F4					-0.36 (-1.17,0.46)	⊕⊕◯◯ low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-0.65 (-1.98,0.69)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs Sham	***-0.48 (-0.87,-0.10)**	⊕⊕⊕◯ medium	-0.23 (0.56)	⊕⊕⊕◯ medium	***-0.45 (-0.79,-0.12)**	⊕⊕⊕⊕ high
extreme hf (20Hz) rTMS at left DLPFC (F3) vs iTBS at Iz (vermal part of cerebellum)					-0.51 (-1.17,0.16)	⊕⊕◯◯ low
extreme hf (20Hz) rTMS at left DLPFC					-0.81 (-2.18,0.56)	⊕◯◯◯ very low

(F3) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)						
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 1 Hz rTMS at right PFC (F4)					-0.79 (-1.92,0.33)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs Theta-range rTMS at Iz (vermal part of cerebellum)					-0.80 (-1.87,0.27)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					0.06 (-1.30,1.42)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					0.00 (-1.41,1.41)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					-0.04 (-0.69,0.62)	⊕⊕◯◯ low
hf (10Hz) rTMS at left DLPFC (F3) vs 20 Hz deep rTMS at left DLPFC (F3)					-0.05 (-1.19,1.09)	⊕◯◯◯ very low

hf (10Hz) rTMS at left DLPFC (F3) vs extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)					-0.05 (-1.20,1.11)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs tVNS at left auricle					-0.20 (-1.49,1.10)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					-0.24 (-1.50,1.01)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					-0.25 (-1.23,0.74)	⊕⊕◯◯ low
hf (10Hz) rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at F4					-0.33 (-1.11,0.45)	⊕⊕◯◯ low
hf (10Hz) rTMS at left DLPFC (F3) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-0.62 (-1.94,0.70)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs Sham	***-0.42 (-0.67,-0.17)**	⊕⊕⊕◯ medium	-0.75 (0.65)	⊕⊕⊕◯ medium	***-0.43 (-0.68,-0.18)**	⊕⊕⊕⊕ high
hf (10Hz) rTMS at left DLPFC (F3) vs iTBS at Iz (vermal part of cerebellum)					-0.48 (-1.11,0.14)	⊕⊕◯◯ low

hf (10Hz) rTMS at left DLPFC (F3) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-0.79 (-2.13,0.56)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs 1 Hz rTMS at right PFC (F4)					-0.77 (-1.87,0.33)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs Theta-range rTMS at Iz (vermal part of cerebellum)					-0.78 (-1.82,0.27)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					-0.06 (-1.99,1.87)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					-0.10 (-1.57,1.37)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 20 Hz					-0.11 (-1.85,1.62)	⊕◯◯◯ very low

deep rTMS at left DLPFC (F3)						
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)					-0.11 (-1.86,1.64)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs tVNS at left auricle					-0.26 (-2.11,1.58)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					-0.31 (-2.12,1.50)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					-0.31 (-1.95,1.33)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 2 mA					-0.40 (-1.92,1.13)	⊕◯◯◯ very low

Anode tDCS at F3, cathode at F4						
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-0.69 (-2.55,1.17)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs Sham	-0.49 (-1.56,0.58)	⊕◯◯◯ very low			-0.49 (-1.83,0.84)	⊕⊕◯◯ low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs iTBS at Iz (vermal part of cerebellum)					-0.55 (-2.00,0.91)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-0.85 (-2.73,1.03)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 1 Hz rTMS at right PFC (F4)					-0.84 (-2.55,0.88)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7,					-0.84 (-2.52,0.84)	⊕◯◯◯ very low

FC5, and FC1 vs Theta-range rTMS at Iz (vermal part of cerebellum)						
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					-0.04 (-1.56,1.48)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs 20 Hz deep rTMS at left DLPFC (F3)					-0.05 (-1.83,1.73)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)					-0.05 (-1.84,1.74)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs tVNS at left auricle					-0.20 (-2.08,1.69)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1					-0.25 (-2.10,1.61)	⊕◯◯◯ very low

Hz rTMS at PT3 vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)						
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)	-0.25 (-0.87,0.38)	⊕⊕◯◯ low	0.37 (629.80)	⊕◯◯◯ very low	-0.25 (-1.26,0.77)	⊕⊕⊕⊕ high
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs 2 mA Anode tDCS at F3, cathode at F4					-0.33 (-1.91,1.24)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-0.62 (-2.52,1.28)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs Sham					-0.43 (-1.82,0.96)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs					-0.49 (-1.99,1.02)	⊕◯◯◯ very low

iTBS at Iz (vermal part of cerebellum)						
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-0.79 (-2.71,1.14)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs 1 Hz rTMS at right PFC (F4)					-0.77 (-2.53,0.98)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs Theta-range rTMS at Iz (vermal part of cerebellum)					-0.78 (-2.50,0.95)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs 20 Hz deep rTMS at left DLPFC (F3)					-0.01 (-1.28,1.25)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs extreme hf (20Hz) rTMS at left DLPFC					-0.01 (-1.29,1.27)	⊕◯◯◯ very low

(F3) and right DLPFC (F4)						
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs tVNS at left auricle					-0.16 (-1.57,1.25)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					-0.21 (-1.58,1.16)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					-0.21 (-1.34,0.92)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs 2 mA Anode tDCS at F3, cathode at F4					-0.29 (-1.25,0.66)	⊕⊕◯◯ low
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-0.58 (-2.02,0.85)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs Sham	-0.39 (-1.14,0.37)	⊕⊕◯◯ low			-0.39 (-1.00,0.22)	⊕⊕◯◯ low

2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs iTBS at Iz (vermal part of cerebellum)					-0.45 (-1.28,0.39)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-0.75 (-2.21,0.71)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs 1 Hz rTMS at right PFC (F4)					-0.73 (-1.97,0.50)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs Theta-range rTMS at Iz (vermal part of cerebellum)					-0.74 (-1.93,0.45)	⊕◯◯◯ very low
20 Hz deep rTMS at left DLPFC (F3) vs extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)					0.00 (-1.58,1.58)	⊕◯◯◯ very low
20 Hz deep rTMS at left DLPFC (F3) vs tVNS at left auricle					-0.15 (-1.84,1.54)	⊕◯◯◯ very low
20 Hz deep rTMS at left DLPFC (F3) vs 1 Hz deep rTMS at PT3					-0.20 (-1.85,1.46)	⊕◯◯◯ very low

(left temporo-parietal cortex)						
20 Hz deep rTMS at left DLPFC (F3) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					-0.20 (-1.66,1.26)	⊕◯◯◯ very low
20 Hz deep rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at F4					-0.28 (-1.62,1.05)	⊕◯◯◯ very low
20 Hz deep rTMS at left DLPFC (F3) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-0.57 (-2.28,1.13)	⊕◯◯◯ very low
20 Hz deep rTMS at left DLPFC (F3) vs Sham	-0.38 (-1.15,0.39)	⊕⊕◯◯ low			-0.38 (-1.49,0.73)	⊕⊕◯◯ low
20 Hz deep rTMS at left DLPFC (F3) vs iTBS at Iz (vermal part of cerebellum)					-0.44 (-1.68,0.81)	⊕◯◯◯ very low
20 Hz deep rTMS at left DLPFC (F3) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-0.74 (-2.47,0.99)	⊕◯◯◯ very low
20 Hz deep rTMS at left DLPFC (F3) vs 1 Hz rTMS at right PFC (F4)					-0.72 (-2.26,0.82)	⊕◯◯◯ very low
20 Hz deep rTMS at left DLPFC (F3) vs					-0.73 (-2.23,0.78)	⊕◯◯◯ very low

Theta-range rTMS at Iz (vermal part of cerebellum)						
extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4) vs tVNS at left auricle					-0.15 (-1.85,1.55)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					-0.20 (-1.86,1.47)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					-0.20 (-1.67,1.28)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4) vs 2 mA Anode tDCS at F3, cathode at F4					-0.28 (-1.63,1.07)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-0.57 (-2.29,1.14)	⊕◯◯◯ very low

extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4) vs Sham	-0.38 (-1.18,0.41)	⊕⊕◯◯ low			-0.38 (-1.51,0.75)	⊕⊕◯◯ low
extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4) vs iTBS at Iz (vermal part of cerebellum)					-0.44 (-1.70,0.83)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-0.74 (-2.48,1.00)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4) vs 1 Hz rTMS at right PFC (F4)					-0.72 (-2.28,0.83)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4) vs Theta-range rTMS at Iz (vermal part of cerebellum)					-0.73 (-2.25,0.79)	⊕◯◯◯ very low
tVNS at left auricle vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					-0.05 (-1.81,1.72)	⊕◯◯◯ very low
tVNS at left auricle vs 1 Hz rTMS at PT3 (left					-0.05 (-1.63,1.54)	⊕◯◯◯ very low

temporo-parietal cortex)						
tVNS at left auricle vs 2 mA Anode tDCS at F3, cathode at F4					-0.13 (-1.60,1.34)	⊕◯◯◯ very low
tVNS at left auricle vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-0.42 (-2.24,1.39)	⊕◯◯◯ very low
tVNS at left auricle vs Sham	-0.23 (-1.22,0.75)	⊕◯◯◯ very low			-0.23 (-1.50,1.04)	⊕⊕◯◯ low
tVNS at left auricle vs iTBS at Iz (vermal part of cerebellum)					-0.29 (-1.68,1.11)	⊕◯◯◯ very low
tVNS at left auricle vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-0.59 (-2.42,1.25)	⊕◯◯◯ very low
tVNS at left auricle vs 1 Hz rTMS at right PFC (F4)					-0.57 (-2.23,1.09)	⊕◯◯◯ very low
tVNS at left auricle vs Theta-range rTMS at Iz (vermal part of cerebellum)					-0.58 (-2.21,1.05)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					-0.00 (-1.55,1.55)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs 2					-0.09 (-1.52,1.35)	⊕◯◯◯ very low

mA Anode tDCS at F3, cathode at F4						
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-0.38 (-2.16,1.41)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs Sham	-0.19 (-1.11,0.74)	⊕◯◯◯ very low			-0.19 (-1.41,1.04)	⊕⊕◯◯ low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs iTBS at Iz (vermal part of cerebellum)					-0.24 (-1.59,1.11)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-0.54 (-2.35,1.26)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs 1 Hz rTMS at right PFC (F4)					-0.53 (-2.15,1.10)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs Theta-range rTMS at Iz (vermal part of cerebellum)					-0.53 (-2.13,1.06)	⊕◯◯◯ very low

1 Hz rTMS at PT3 (left temporo-parietal cortex) vs 2 mA Anode tDCS at F3, cathode at F4					-0.09 (-1.29,1.12)	⊕◯◯◯ very low
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-0.38 (-1.98,1.23)	⊕◯◯◯ very low
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs Sham	-0.18 (-0.94,0.57)	⊕⊕◯◯ low	0.12 (318.26)	⊕◯◯◯ very low	-0.18 (-1.14,0.77)	⊕⊕⊕⊕ high
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs iTBS at Iz (vermal part of cerebellum)					-0.24 (-1.35,0.87)	⊕◯◯◯ very low
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-0.54 (-2.17,1.09)	⊕◯◯◯ very low
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs 1 Hz rTMS at right PFC (F4)					-0.53 (-1.96,0.91)	⊕◯◯◯ very low
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs Theta-range rTMS at Iz					-0.53 (-1.92,0.86)	⊕◯◯◯ very low

(vermal part of cerebellum)						
2 mA Anode tDCS at F3, cathode at F4 vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					-0.29 (-1.78,1.20)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at F4 vs Sham	-0.09 (-0.54,0.37)	⊕⊕◯◯ low			-0.10 (-0.84,0.64)	⊕⊕◯◯ low
2 mA Anode tDCS at F3, cathode at F4 vs iTBS at Iz (vermal part of cerebellum)					-0.15 (-1.09,0.78)	⊕⊕◯◯ low
2 mA Anode tDCS at F3, cathode at F4 vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-0.45 (-1.97,1.06)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at F4 vs 1 Hz rTMS at right PFC (F4)					-0.44 (-1.74,0.86)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at F4 vs Theta-range rTMS at Iz (vermal part of cerebellum)					-0.45 (-1.70,0.81)	⊕◯◯◯ very low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs Sham	0.19 (-0.82,1.21)	⊕◯◯◯ very low			0.19 (-1.10,1.49)	⊕⊕◯◯ low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					0.14 (-1.28,1.55)	⊕◯◯◯ very low

vs iTBS at Iz (vermal part of cerebellum)						
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)	-0.16 (-1.18,0.85)	⊕◯◯◯ very low			-0.16 (-1.46,1.13)	⊕⊕◯◯ low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs 1 Hz rTMS at right PFC (F4)					-0.15 (-1.83,1.53)	⊕◯◯◯ very low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs Theta-range rTMS at Iz (vermal part of cerebellum)					-0.16 (-1.80,1.49)	⊕◯◯◯ very low
Sham vs iTBS at Iz (vermal part of cerebellum)	-0.05 (-0.54,0.44)	⊕⊕◯◯ low			-0.05 (-0.63,0.52)	⊕⊕⊕◯ medium
Sham vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)	-0.36 (-1.41,0.70)	⊕◯◯◯ very low			-0.36 (-1.68,0.97)	⊕⊕◯◯ low
Sham vs 1 Hz rTMS at right PFC (F4)	-0.34 (-1.05,0.37)	⊕⊕◯◯ low			-0.34 (-1.41,0.73)	⊕⊕◯◯ low
Sham vs Theta-range rTMS at Iz (vermal part of cerebellum)	-0.35 (-0.97,0.28)	⊕⊕◯◯ low			-0.35 (-1.37,0.67)	⊕⊕◯◯ low
iTBS at Iz (vermal part of cerebellum) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					-0.30 (-1.74,1.14)	⊕◯◯◯ very low

iTBS at Iz (vermal part of cerebellum) vs 1 Hz rTMS at right PFC (F4)					-0.29 (-1.50,0.93)	⊕◯◯◯ very low
iTBS at Iz (vermal part of cerebellum) vs Theta-range rTMS at Iz (vermal part of cerebellum)					-0.29 (-1.46,0.87)	⊕◯◯◯ very low
2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ) vs 1 Hz rTMS at right PFC (F4)					0.01 (-1.69,1.72)	⊕◯◯◯ very low
2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ) vs Theta-range rTMS at Iz (vermal part of cerebellum)					0.01 (-1.66,1.68)	⊕◯◯◯ very low
1 Hz rTMS at right PFC (F4) vs Theta-range rTMS at Iz (vermal part of cerebellum)					-0.01 (-1.48,1.47)	⊕◯◯◯ very low

We followed Cochrane Handbook for GRADE ratings in BMJ[43] and one important network meta-analysis in Lancet[44] for quality assessment

eTable 9B: Quality of evidence for primary outcome: drop-out rate

Comparisons	Direct evidence		Indirect evidence		Network meta-analysis	
	Standardized mean difference (95% CI)	The final rating of direct evidence	Co-efficiency (Standard error)	The final rating of indirect evidence	Standardized mean difference (95% CI)	Overall quality of evidence
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs iTBS at left DLPFC (F3)					0.68 (0.06,8.30)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs hf (10Hz) rTMS at left DLPFC (F3)					0.49 (0.06,4.16)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs extreme hf (20Hz) rTMS at left DLPFC (F3)					0.36 (0.04,3.08)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 1 Hz rTMS at right PFC (F4)					0.36 (0.03,4.63)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					0.38 (0.01,14.15)	⊕◯◯◯ very low

hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					0.33 (0.01,12.50)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					0.33 (0.02,5.45)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 2 mA Anode tDCS at F3, cathode at Fp2					0.33 (0.02,5.33)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					0.33 (0.01,12.26)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					0.33 (0.01,12.50)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs Sham	0.33 (0.04,2.69)	⊕◯◯◯ very low			0.33 (0.04,2.69)	⊕⊕⊕◯ medium

hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs tVNS at left auricle					0.33 (0.02,6.87)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs Theta-range rTMS at Iz (vermal part of cerebellum)					0.25 (0.02,3.51)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					0.22 (0.00,13.04)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs iTBS at Iz (vermal part of cerebellum)					0.26 (0.03,2.49)	⊕⊕◯◯ low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 2 mA Anode tDCS at F3, cathode at F4					0.20 (0.02,2.17)	⊕⊕◯◯ low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.11 (0.00,5.46)	⊕◯◯◯ very low

hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.11 (0.00,5.07)	⊕◯◯◯ very low
hf (10Hz) rTMS at left PFC (F3) and right PFC (F4) vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.06 (0.00,1.26)	⊕⊕⊕◯ medium
iTBS at left DLPFC (F3) vs hf (10Hz) rTMS at left DLPFC (F3)	1.04 (0.10,10.45)	⊕◯◯◯ very low	-0.58 (0.94)	⊕⊕⊕◯ medium	0.71 (0.17,2.99)	⊕⊕⊕⊕ high
iTBS at left DLPFC (F3) vs extreme hf (20Hz) rTMS at left DLPFC (F3)	0.44 (0.06,3.16)	⊕◯◯◯ very low	-0.60 (0.91)	⊕⊕⊕◯ medium	0.53 (0.13,2.19)	⊕⊕⊕⊕ high
iTBS at left DLPFC (F3) vs 1 Hz rTMS at right PFC (F4)					0.53 (0.07,3.93)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					0.56 (0.02,14.44)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs High definition 2 mA Anode tDCS at F3,					0.49 (0.02,12.77)	⊕◯◯◯ very low

cathode at AF3, F7, FC5, and FC1						
iTBS at left DLPFC (F3) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					0.49 (0.05,4.91)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at Fp2					0.49 (0.05,4.78)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					0.49 (0.02,12.50)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					0.49 (0.02,12.77)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs Sham	0.42 (0.10,1.73)	⊕⊕◯◯ low	0.26 (1.35)	⊕⊕◯◯ low	0.49 (0.12,1.92)	⊕⊕⊕⊕ high
iTBS at left DLPFC (F3) vs tVNS at left auricle					0.49 (0.04,6.47)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs Theta-range rTMS at Iz (vermal part of cerebellum)					0.37 (0.04,3.05)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs 6 Hz priming rTMS at PT3 (left temporo-parietal					0.33 (0.01,13.91)	⊕◯◯◯ very low

cortex) + 1 Hz rTMS at PT3						
iTBS at left DLPFC (F3) vs iTBS at Iz (vermal part of cerebellum)					0.38 (0.08,1.93)	⊕⊕⊕◯ medium
iTBS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at F4					0.29 (0.05,1.75)	⊕⊕⊕◯ medium
iTBS at left DLPFC (F3) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.16 (0.00,5.73)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.15 (0.00,5.31)	⊕◯◯◯ very low
iTBS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.09 (0.01,1.18)	⊕⊕⊕◯ medium
hf (10Hz) rTMS at left DLPFC (F3) vs extreme hf (20Hz) rTMS at left DLPFC (F3)	0.46 (0.19,1.12)	⊕⊕◯◯ low	-0.17 (0.44)	⊕⊕⊕◯ medium	0.75 (0.40,1.39)	⊕⊕⊕⊕ high
hf (10Hz) rTMS at left DLPFC (F3) vs 1 Hz rTMS at right PFC (F4)					0.74 (0.16,3.51)	⊕◯◯◯ very low

hf (10Hz) rTMS at left DLPFC (F3) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					0.78 (0.04,15.65)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					0.69 (0.03,13.85)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					0.69 (0.10,4.71)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at Fp2					0.69 (0.10,4.55)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					0.69 (0.03,13.54)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					0.69 (0.03,13.85)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs Sham	0.78 (0.46,1.32)	⊕⊕◯◯ low	-1.69 (0.93)	⊕⊕⊕◯ medium	0.69 (0.41,1.14)	⊕⊕⊕⊕ high

hf (10Hz) rTMS at left DLPFC (F3) vs tVNS at left auricle					0.69 (0.07,6.50)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs Theta-range rTMS at Iz (vermal part of cerebellum)					0.51 (0.09,2.81)	⊕⊕◯◯ low
hf (10Hz) rTMS at left DLPFC (F3) vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					0.46 (0.01,15.65)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs iTBS at Iz (vermal part of cerebellum)					0.53 (0.20,1.46)	⊕⊕⊕◯ medium
hf (10Hz) rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at F4					0.41 (0.12,1.45)	⊕⊕⊕⊕ high
hf (10Hz) rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.23 (0.01,6.37)	⊕◯◯◯ very low
hf (10Hz) rTMS at left DLPFC (F3) vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.22 (0.01,5.89)	⊕◯◯◯ very low

hf (10Hz) rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.13 (0.01,1.19)	⊕⊕⊕⊕ high
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 1 Hz rTMS at right PFC (F4)					0.99 (0.21,4.64)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					1.05 (0.05,20.82)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					0.92 (0.05,18.43)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					0.92 (0.13,6.24)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at Fp2					0.92 (0.14,6.04)	⊕◯◯◯ very low

extreme hf (20Hz) rTMS at left DLPFC (F3) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					0.92 (0.05,18.01)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					0.92 (0.05,18.43)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs Sham	0.87 (0.48,1.58)	⊕⊕◯◯ low	0.77 (1.00)	⊕⊕◯◯ low	0.92 (0.57,1.47)	⊕⊕⊕⊕ high
extreme hf (20Hz) rTMS at left DLPFC (F3) vs tVNS at left auricle					0.92 (0.10,8.63)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs Theta-range rTMS at Iz (vermal part of cerebellum)					0.69 (0.13,3.72)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					0.61 (0.02,20.83)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs iTBS at Iz					0.72 (0.27,1.92)	⊕⊕⊕◯ medium

(vermal part of cerebellum)						
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at F4					0.55 (0.16,1.91)	⊕⊕⊕◯ medium
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.31 (0.01,8.47)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.29 (0.01,7.84)	⊕◯◯◯ very low
extreme hf (20Hz) rTMS at left DLPFC (F3) vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.17 (0.02,1.57)	⊕⊕⊕◯ medium
1 Hz rTMS at right PFC (F4) vs 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					1.05 (0.04,28.49)	⊕◯◯◯ very low
1 Hz rTMS at right PFC (F4) vs High definition 2 mA Anode tDCS at F3,					0.92 (0.03,25.19)	⊕◯◯◯ very low

cathode at AF3, F7, FC5, and FC1						
1 Hz rTMS at right PFC (F4) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					0.92 (0.09,9.86)	⊕◯◯◯ very low
1 Hz rTMS at right PFC (F4) vs 2 mA Anode tDCS at F3, cathode at Fp2					0.92 (0.09,9.59)	⊕◯◯◯ very low
1 Hz rTMS at right PFC (F4) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					0.92 (0.03,24.67)	⊕◯◯◯ very low
1 Hz rTMS at right PFC (F4) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					0.92 (0.03,25.19)	⊕◯◯◯ very low
1 Hz rTMS at right PFC (F4) vs Sham	0.92 (0.21,4.00)	⊕◯◯◯ very low			0.92 (0.21,4.00)	⊕⊕⊕◯ medium
1 Hz rTMS at right PFC (F4) vs tVNS at left auricle					0.92 (0.07,12.90)	⊕◯◯◯ very low
1 Hz rTMS at right PFC (F4) vs Theta-range rTMS at Iz (vermal part of cerebellum)					0.69 (0.08,6.16)	⊕◯◯◯ very low
1 Hz rTMS at right PFC (F4) vs 6 Hz priming rTMS at PT3					0.62 (0.01,27.29)	⊕◯◯◯ very low

(left temporo-parietal cortex) + 1 Hz rTMS at PT3						
1 Hz rTMS at right PFC (F4) vs iTBS at Iz (vermal part of cerebellum)					0.72 (0.13,3.96)	⊕◯◯◯ very low
1 Hz rTMS at right PFC (F4) vs 2 mA Anode tDCS at F3, cathode at F4					0.55 (0.09,3.58)	⊕◯◯◯ very low
1 Hz rTMS at right PFC (F4) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.31 (0.01,11.27)	⊕◯◯◯ very low
1 Hz rTMS at right PFC (F4) vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.29 (0.01,10.45)	⊕◯◯◯ very low
1 Hz rTMS at right PFC (F4) vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.17 (0.01,2.36)	⊕⊕◯◯ low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					0.88 (0.01,57.33)	⊕◯◯◯ very low

2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)					0.88 (0.03,28.64)	⊕◯◯◯ very low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs 2 mA Anode tDCS at F3, cathode at Fp2					0.88 (0.03,28.12)	⊕◯◯◯ very low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					0.88 (0.01,56.40)	⊕◯◯◯ very low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)	0.87 (0.05,16.67)	⊕◯◯◯ very low			0.87 (0.05,16.74)	⊕⊕⊕◯ medium
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs Sham	0.88 (0.05,16.74)	⊕◯◯◯ very low			0.88 (0.05,16.74)	⊕⊕⊕◯ medium
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs tVNS at left auricle					0.88 (0.02,34.56)	⊕◯◯◯ very low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs Theta-range rTMS at Iz (vermal part of cerebellum)					0.66 (0.02,19.03)	⊕◯◯◯ very low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs 6 Hz priming rTMS					0.58 (0.01,56.66)	⊕◯◯◯ very low

at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3						
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs iTBS at Iz (vermal part of cerebellum)					0.68 (0.03,14.79)	⊕◯◯◯ very low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs 2 mA Anode tDCS at F3, cathode at F4					0.52 (0.02,12.48)	⊕◯◯◯ very low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.29 (0.00,24.20)	⊕◯◯◯ very low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.28 (0.00,22.53)	⊕◯◯◯ very low
2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ) vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.16 (0.00,6.32)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 1 Hz deep rTMS at PT3					1.00 (0.03,33.06)	⊕◯◯◯ very low

(left temporo-parietal cortex)						
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 2 mA Anode tDCS at F3, cathode at Fp2					1.00 (0.03,32.46)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					1.00 (0.02,64.99)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					1.00 (0.02,66.06)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs Sham	1.00 (0.05,19.36)	⊕◯◯◯ very low			1.00 (0.05,19.36)	⊕⊕⊕◯ medium
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs tVNS at left auricle					1.00 (0.03,39.86)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3,					0.75 (0.03,21.97)	⊕◯◯◯ very low

cathode at AF3, F7, FC5, and FC1 vs Theta-range rTMS at Iz (vermal part of cerebellum)						
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					0.67 (0.01,65.24)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs iTBS at Iz (vermal part of cerebellum)					0.78 (0.04,17.09)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 2 mA Anode tDCS at F3, cathode at F4					0.60 (0.02,14.42)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.33 (0.00,27.88)	⊕◯◯◯ very low

High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.32 (0.00,25.95)	⊕◯◯◯ very low
High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1 vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.18 (0.00,7.29)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs 2 mA Anode tDCS at F3, cathode at Fp2					1.00 (0.07,13.53)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					1.00 (0.03,32.41)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					1.00 (0.03,33.06)	⊕◯◯◯ very low

1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs Sham	1.00 (0.16,6.42)	⊕◯◯◯ very low			1.00 (0.16,6.42)	⊕⊕⊕◯ medium
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs tVNS at left auricle					1.00 (0.06,17.71)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs Theta-range rTMS at Iz (vermal part of cerebellum)					0.75 (0.06,8.83)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					0.67 (0.01,34.99)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs iTBS at Iz (vermal part of cerebellum)					0.78 (0.10,6.07)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs 2 mA Anode tDCS at F3, cathode at F4					0.60 (0.07,5.35)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-					0.33 (0.01,14.57)	⊕◯◯◯ very low

parietal cortex) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)						
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.32 (0.01,13.53)	⊕◯◯◯ very low
1 Hz deep rTMS at PT3 (left temporo-parietal cortex) vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.18 (0.01,3.24)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 1 Hz rTMS at PT3 (left temporo-parietal cortex)					1.00 (0.03,31.82)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					1.00 (0.03,32.46)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs Sham	1.00 (0.16,6.20)	⊕◯◯◯ very low			1.00 (0.16,6.20)	⊕⊕⊕◯ medium
2 mA Anode tDCS at F3, cathode at Fp2 vs tVNS at left auricle					1.00 (0.06,17.31)	⊕◯◯◯ very low

2 mA Anode tDCS at F3, cathode at Fp2 vs Theta-range rTMS at Iz (vermal part of cerebellum)					0.75 (0.07,8.61)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					0.67 (0.01,34.43)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs iTBS at Iz (vermal part of cerebellum)					0.78 (0.10,5.88)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 2 mA Anode tDCS at F3, cathode at F4					0.60 (0.07,5.19)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.33 (0.01,14.33)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.32 (0.01,13.30)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at Fp2 vs 2 mA Anode tDCS at					0.18 (0.01,3.16)	⊕◯◯◯ very low

F3, cathode at TP3 (left TPJ)						
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)					1.00 (0.02,64.99)	⊕◯◯◯ very low
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs Sham	1.00 (0.05,18.92)	⊕◯◯◯ very low	-0.22 (1001.60)	⊕◯◯◯ very low	1.00 (0.05,18.91)	⊕⊕⊕⊕ high
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs tVNS at left auricle					1.00 (0.03,39.12)	⊕◯◯◯ very low
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs Theta-range rTMS at Iz (vermal part of cerebellum)					0.75 (0.03,21.52)	⊕◯◯◯ very low
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3	0.67 (0.10, 4.42)	⊕◯◯◯ very low	-0.01 (1909.69)	⊕◯◯◯ very low	0.67 (0.10,4.43)	⊕⊕⊕⊕ high
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs iTBS at Iz (vermal part of cerebellum)					0.78 (0.04,16.72)	⊕◯◯◯ very low

1 Hz rTMS at PT3 (left temporo-parietal cortex) vs 2 mA Anode tDCS at F3, cathode at F4					0.60 (0.03,14.11)	⊕◯◯◯ very low
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.33 (0.00,27.45)	⊕◯◯◯ very low
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.32 (0.00,25.55)	⊕◯◯◯ very low
1 Hz rTMS at PT3 (left temporo-parietal cortex) vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.18 (0.00,7.16)	⊕◯◯◯ very low
2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ) vs Sham	1.00 (0.05,19.36)	⊕◯◯◯ very low			1.00 (0.05,19.36)	⊕⊕⊕◯ medium
2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ) vs tVNS at left auricle					1.00 (0.03,39.86)	⊕◯◯◯ very low

2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ) vs Theta-range rTMS at Iz (vermal part of cerebellum)					0.75 (0.03,21.97)	⊕◯◯◯ very low
2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ) vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					0.67 (0.01,65.24)	⊕◯◯◯ very low
2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ) vs iTBS at Iz (vermal part of cerebellum)					0.78 (0.04,17.09)	⊕◯◯◯ very low
2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ) vs 2 mA Anode tDCS at F3, cathode at F4					0.60 (0.02,14.42)	⊕◯◯◯ very low
2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.33 (0.00,27.88)	⊕◯◯◯ very low
2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ) vs High definition 2 mA					0.32 (0.00,25.95)	⊕◯◯◯ very low

Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4						
2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ) vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.18 (0.00,7.29)	⊕◯◯◯ very low
Sham vs tVNS at left auricle	1.00 (0.11,8.95)	⊕◯◯◯ very low			1.00 (0.11,8.95)	⊕⊕⊕◯ medium
Sham vs Theta-range rTMS at Iz (vermal part of cerebellum)	0.75 (0.15,3.79)	⊕◯◯◯ very low			0.75 (0.15,3.79)	⊕⊕⊕◯ medium
Sham vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					0.67 (0.02,22.01)	⊕◯◯◯ very low
Sham vs iTBS at Iz (vermal part of cerebellum)	0.78 (0.33,1.86)	⊕⊕◯◯ low			0.78 (0.33,1.86)	⊕⊕⊕⊕ high
Sham vs 2 mA Anode tDCS at F3, cathode at F4	0.60 (0.19,1.90)	⊕⊕◯◯ low			0.60 (0.19,1.90)	⊕⊕⊕⊕ high
Sham vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)	0.33 (0.01,8.93)	⊕◯◯◯ very low			0.33 (0.01,8.93)	⊕◯◯◯ very low
Sham vs High definition 2 mA Anode tRNS at AF3,	0.32 (0.01,8.26)	⊕◯◯◯ very low			0.32 (0.01,8.27)	⊕◯◯◯ very low

cathode at AF4, F2, F6, and FC4						
Sham vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)	0.18 (0.02,1.63)	⊕⊕◯◯ low			0.18 (0.02,1.63)	⊕⊕⊕⊕ high
tVNS at left auricle vs Theta-range rTMS at Iz (vermal part of cerebellum)					0.75 (0.05,11.44)	⊕◯◯◯ very low
tVNS at left auricle vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					0.67 (0.01,41.32)	⊕◯◯◯ very low
tVNS at left auricle vs iTBS at Iz (vermal part of cerebellum)					0.78 (0.07,8.23)	⊕◯◯◯ very low
tVNS at left auricle vs 2 mA Anode tDCS at F3, cathode at F4					0.60 (0.05,7.14)	⊕◯◯◯ very low
tVNS at left auricle vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.33 (0.01,17.34)	⊕◯◯◯ very low
tVNS at left auricle vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.32 (0.01,16.11)	⊕◯◯◯ very low
tVNS at left auricle vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.18 (0.01,4.05)	⊕◯◯◯ very low

Theta-range rTMS at Iz (vermal part of cerebellum) vs 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					0.89 (0.02,41.94)	⊕◯◯◯ very low
Theta-range rTMS at Iz (vermal part of cerebellum) vs iTBS at Iz (vermal part of cerebellum)					1.04 (0.17,6.53)	⊕◯◯◯ very low
Theta-range rTMS at Iz (vermal part of cerebellum) vs 2 mA Anode tDCS at F3, cathode at F4					0.80 (0.11,5.84)	⊕◯◯◯ very low
Theta-range rTMS at Iz (vermal part of cerebellum) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.44 (0.01,17.37)	⊕◯◯◯ very low
Theta-range rTMS at Iz (vermal part of cerebellum) vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.42 (0.01,16.12)	⊕◯◯◯ very low
Theta-range rTMS at Iz (vermal part of cerebellum) vs 2 mA					0.24 (0.02,3.72)	⊕◯◯◯ very low

Anode tDCS at F3, cathode at TP3 (left TPJ)						
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs iTBS at Iz (vermal part of cerebellum)					1.17 (0.03,42.93)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs 2 mA Anode tDCS at F3, cathode at F4					0.90 (0.02,35.76)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.50 (0.00,60.77)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3 vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.47 (0.00,56.64)	⊕◯◯◯ very low
6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1					0.28 (0.00,17.02)	⊕◯◯◯ very low

Hz rTMS at PT3 vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)						
iTBS at Iz (vermal part of cerebellum) vs 2 mA Anode tDCS at F3, cathode at F4					0.77 (0.18,3.26)	⊕◯◯◯ very low
iTBS at Iz (vermal part of cerebellum) vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.43 (0.01,12.82)	⊕◯◯◯ very low
iTBS at Iz (vermal part of cerebellum) vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.40 (0.01,11.88)	⊕◯◯◯ very low
iTBS at Iz (vermal part of cerebellum) vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.24 (0.02,2.47)	⊕⊕◯◯ low
2 mA Anode tDCS at F3, cathode at F4 vs 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)					0.56 (0.02,18.12)	⊕◯◯◯ very low
2 mA Anode tDCS at F3, cathode at F4 vs High definition 2 mA Anode tRNS at AF3,					0.53 (0.02,16.79)	⊕◯◯◯ very low

cathode at AF4, F2, F6, and FC4						
2 mA Anode tDCS at F3, cathode at F4 vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.31 (0.03,3.62)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4					0.95 (0.01,97.47)	⊕◯◯◯ very low
2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ) vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.55 (0.01,28.56)	⊕◯◯◯ very low
High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4 vs 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)					0.58 (0.01,29.65)	⊕◯◯◯ very low

We followed Cochrane Handbook for GRADE ratings in BMJ[43] and one important network meta-analysis in Lancet[44] for quality assessment

Abbreviation: 95%CI: 95% confidence interval; a-tDCS-F3 + c-tDCS-F4: 2 mA Anode tDCS at F3, cathode at F4; a-tDCS-F3 + c-tDCS-Fp2: 2 mA Anode tDCS at F3, cathode at Fp2; a-tDCS-F3 + c-tDCS-TP3: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ); a-tDCS-F3Fp1 + c-tDCS-F4Fp2: 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2; a-tDCS-F3Fp1 + c-tDCS-TP3: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ); a-tDCS-TP3 + c-tDCS-F3Fp1: 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ); DLPFC: dorsolateral prefrontal cortex; ehf-dTMS-F3: 20 Hz deep rTMS at left DLPFC (F3); ehf-rTMS-F3: extreme hf (20Hz) rTMS at left DLPFC (F3); ehf-rTMS-F3F4: extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4); hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1: High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1; hd-tRNS-AF3AF4F2F6FC4: High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4; hf-rTMS-F3: hf (10Hz) rTMS at left DLPFC (F3); hf-rTMS-F3F4: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4); iTBS: intermittent theta-burst stimulation; iTBS-F3: iTBS at left DLPFC (F3); iTBS-Iz : iTBS at Iz (vermal part of cerebellum); lf-dTMS-PT3: 1 Hz deep rTMS at PT3 (left temporo-parietal cortex); lf-rTMS-F4: 1 Hz rTMS at right PFC (F4); lf-rTMS-PT3: 1 Hz rTMS at PT3 (left temporo-parietal cortex); MRI: magnetic resonance imaging; NIBS: noninvasive brain stimulation; NMA: network meta-analysis; OR: odds ratio; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses; prTMS-PT3 + lf-rTMS-PT3: 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3; RCT: randomized controlled trial; rTMS: repetitive transcranial magnetic stimulation; SMD: standardized mean difference; SUCRA: surface under the cumulative ranking curve; tACS-F3Fp1-TP3: 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ); TBS: theta-burst stimulation; tDCS: transcranial direct current stimulation; the-rTMS-Iz : Theta-range rTMS at Iz (vermal part of cerebellum); tRNS: transcranial random noise stimulation; tVNS: transcutaneous vegal nerve stimulation; tVNS: tVNS at left auricle; vmPFC: ventromedial prefrontal cortex; VTA: ventral tegmental area

eTable 10A: League table of the improvement of negative symptoms

High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4																		***-2.19 (-3.05,-1.33) n=1**				
-0.87 (-2.18,0.43)	iTBS at left DLPFC (F3)					***-0.74 (-1.19,-0.28) n=2**	-0.60 (-1.37,0.17) n=2											***-1.62 (-3.17,-0.08) n=3**				
-0.90 (-2.43,0.63)	-0.02 (-1.15,1.10)	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2																***-1.29 (-1.85,-0.73) n=1**				
-0.91 (-2.63,0.82)	-0.03 (-1.42,1.35)	-0.01 (-1.61,1.59)	2 mA Anode tDCS at F3, cathode at Fp2															***-1.29 (-2.27,-0.30) n=1**				
-1.34 (-2.72,0.03)	-0.47 (-1.38,0.44)	-0.44 (-1.66,0.77)	-0.44 (-1.89,1.02)	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)														***-0.89 (-1.27,-0.52) n=2**				
***-1.61 (-3.04,-0.18)**	-0.74 (-1.73,0.26)	-0.71 (-1.99,0.57)	-0.70 (-2.22,0.81)	-0.27 (-1.36,0.82)	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)													-0.67 (-2.04,0.70) n=2				
***-1.74 (-2.96,-0.51)**	***-0.86 (-1.46,-0.27)**	-0.84 (-1.87,0.20)	-0.83 (-2.14,0.48)	-0.39 (-1.18,0.40)	-0.13 (-1.02,0.76)	extreme hf (20Hz) rTMS at left DLPFC (F3)	0.09 (-0.22,0.39) n=3											***-0.48 (-0.87,-0.10) n=8**				
***-1.76 (-2.96,-0.56)**	***-0.89 (-1.46,-0.31)**	-0.86 (-1.87,0.15)	-0.86 (-2.15,0.44)	-0.42 (-1.17,0.34)	-0.15 (-1.01,0.71)	-0.02 (-0.41,0.36)	hf (10Hz) rTMS at left DLPFC (F3)											***-0.42 (-0.67,-0.17) n=16**				
-1.70 (-3.48,0.08)	-0.82 (-2.27,0.63)	-0.80 (-2.45,0.86)	-0.79 (-2.63,1.05)	-0.35 (-1.87,1.16)	-0.09 (-1.66,1.48)	0.04 (-1.34,1.42)	0.06 (-1.30,1.42)	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1										-0.49 (-1.56,0.58) n=1				
-1.76 (-3.58,0.06)	-0.89 (-2.38,0.61)	-0.86 (-2.56,0.84)	-0.85 (-2.74,1.03)	-0.42 (-1.98,1.15)	-0.15 (-1.77,1.47)	-0.02 (-1.46,1.41)	0.00 (-1.41,1.41)	-0.06 (-1.99,1.87)	6 Hz priming rTMS at PT3 (left temporo-parietal						-0.25 (-0.87,0.38) n=1							

									cortex) + 1 Hz rTMS at PT3													
***-1.80 (-3.12,-0.48)**	***-0.92 (-1.75,-0.10)**	-0.90 (-2.05,0.25)	-0.89 (-2.30,0.51)	-0.45 (-1.39,0.48)	-0.19 (-1.21,0.84)	-0.06 (-0.76,0.63)	-0.04 (-0.69,0.62)	-0.10 (-1.57,1.37)	-0.04 (-1.56,1.48)	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)								-0.39 (-1.14,0.37) n=3				
***-1.81 (-3.42,-0.19)**	-0.93 (-2.18,0.31)	-0.91 (-2.39,0.57)	-0.90 (-2.59,0.78)	-0.47 (-1.79,0.85)	-0.20 (-1.58,1.18)	-0.07 (-1.23,1.09)	-0.05 (-1.19,1.09)	-0.11 (-1.85,1.62)	-0.05 (-1.83,1.73)	-0.01 (-1.28,1.25)	20 Hz deep rTMS at left DLPFC (F3)							-0.38 (-1.15,0.39) n=1				
***-1.81 (-3.44,-0.18)**	-0.93 (-2.19,0.33)	-0.91 (-2.40,0.58)	-0.90 (-2.60,0.80)	-0.46 (-1.80,0.87)	-0.20 (-1.59,1.20)	-0.07 (-1.25,1.11)	-0.05 (-1.20,1.11)	-0.11 (-1.86,1.64)	-0.05 (-1.84,1.74)	-0.01 (-1.29,1.27)	0.00 (-1.58,1.58)	extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)						-0.38 (-1.18,0.41) n=1				
***-1.96 (-3.69,-0.23)**	-1.08 (-2.47,0.30)	-1.06 (-2.66,0.54)	-1.05 (-2.85,0.74)	-0.61 (-2.07,0.84)	-0.35 (-1.86,1.17)	-0.22 (-1.54,1.09)	-0.20 (-1.49,1.10)	-0.26 (-2.11,1.58)	-0.20 (-2.08,1.69)	-0.16 (-1.57,1.25)	-0.15 (-1.84,1.54)	-0.15 (-1.85,1.55)	tVNS at left auricle					-0.23 (-1.22,0.75) n=1				
***-2.01 (-3.70,-0.31)**	-1.13 (-2.48,0.22)	-1.11 (-2.67,0.46)	-1.10 (-2.86,0.66)	-0.66 (-2.08,0.76)	-0.40 (-1.87,1.08)	-0.27 (-1.54,1.00)	-0.24 (-1.50,1.01)	-0.31 (-2.12,1.50)	-0.25 (-2.10,1.61)	-0.21 (-1.58,1.16)	-0.20 (-1.85,1.46)	-0.20 (-1.86,1.47)	-0.05 (-1.81,1.72)	1 Hz deep rTMS at PT3 (left temporo-parietal cortex)				-0.19 (-1.11,0.74) n=1				
***-2.01 (-3.52,-0.50)**	***-1.13 (-2.23,-0.03)**	-1.11 (-2.47,0.26)	-1.10 (-2.69,0.48)	-0.66 (-1.85,0.53)	-0.40 (-1.65,0.86)	-0.27 (-1.28,0.74)	-0.25 (-1.23,0.74)	-0.31 (-1.95,1.33)	-0.25 (-1.26,0.77)	-0.21 (-1.34,0.92)	-0.20 (-1.66,1.26)	-0.20 (-1.67,1.28)	-0.05 (-1.63,1.54)	-0.00 (-1.55,1.55)	1 Hz rTMS at PT3 (left temporo-parietal cortex)			-0.18 (-0.94,0.57) n=2				
***-2.09 (-3.48,-0.70)**	***-1.22 (-2.15,-0.29)**	-1.19 (-2.42,0.03)	-1.19 (-2.65,0.28)	-0.75 (-1.78,0.28)	-0.48 (-1.59,0.63)	-0.36 (-1.17,0.46)	-0.33 (-1.11,0.45)	-0.40 (-1.92,1.13)	-0.33 (-1.91,1.24)	-0.29 (-1.25,0.66)	-0.28 (-1.62,1.05)	-0.28 (-1.63,1.07)	-0.13 (-1.60,1.34)	-0.09 (-1.52,1.35)	-0.09 (-1.29,1.12)	2 mA Anode tDCS at F3, cathode at F4		-0.09 (-0.54,0.37) n=2				
***-2.38 (-4.13,-0.63)**	***-1.51 (-2.92,-0.10)**	-1.48 (-3.11,0.14)	-1.48 (-3.29,0.34)	-1.04 (-2.52,0.44)	-0.77 (-2.31,0.76)	-0.65 (-1.98,0.69)	-0.62 (-1.94,0.70)	-0.69 (-2.55,1.17)	-0.62 (-2.52,1.28)	-0.58 (-2.02,0.85)	-0.57 (-2.28,1.13)	-0.57 (-2.29,1.14)	-0.42 (-2.24,1.39)	-0.38 (-2.16,1.41)	-0.38 (-1.98,1.23)	-0.29 (-1.78,1.20)	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)	0.19 (-0.82,1.21) n=1		-0.16 (-1.18,0.85) n=1		
***-2.19 (-3.36,-1.02)**	***-1.32 (-1.88,-0.76)**	***-1.29 (-2.27,-0.31)**	***-1.28 (-2.55,-0.02)**	***-0.85 (-1.56,-0.13)**	-0.58 (-1.40,0.24)	***-0.45 (-0.79,-0.12)**	***-0.43 (-0.68,-0.18)**	-0.49 (-1.83,0.84)	-0.43 (-1.82,0.96)	-0.39 (-1.00,0.22)	-0.38 (-1.49,0.73)	-0.38 (-1.51,0.75)	-0.23 (-1.50,1.04)	-0.19 (-1.41,1.04)	-0.18 (-1.14,0.77)	-0.10 (-0.84,0.64)	0.19 (-1.10,1.49)	Sham	-0.05 (-0.54,0.44) n=3	-0.36 (-1.41,0.70) n=1	-0.34 (-1.05,0.37) n=1	-0.35 (-0.97,0.28) n=1
***-2.25 (-3.55,-0.94)**	***-1.37 (-2.17,-0.57)**	***-1.35 (-2.48,-0.21)**	-1.34 (-2.73,0.05)	-0.90 (-1.82,0.01)	-0.64 (-1.64,0.37)	-0.51 (-1.17,0.16)	-0.48 (-1.11,0.14)	-0.55 (-2.00,0.91)	-0.49 (-1.99,1.02)	-0.45 (-1.28,0.39)	-0.44 (-1.68,0.81)	-0.44 (-1.70,0.83)	-0.29 (-1.68,1.11)	-0.24 (-1.59,1.11)	-0.24 (-1.35,0.87)	-0.15 (-1.09,0.78)	0.14 (-1.28,1.55)	-0.05 (-0.63,0.52)	iTBS at Iz (vermal part of cerebellum)			
***-2.55 (-4.32,-0.78)**	***-1.67 (-3.11,-0.23)**	-1.65 (-3.29,0.00)	-1.64 (-3.47,0.19)	-1.20 (-2.71,0.30)	-0.94 (-2.50,0.62)	-0.81 (-2.18,0.56)	-0.79 (-2.13,0.56)	-0.85 (-2.73,1.03)	-0.79 (-2.71,1.14)	-0.75 (-2.21,0.71)	-0.74 (-2.47,0.99)	-0.74 (-2.48,1.00)	-0.59 (-2.42,1.25)	-0.54 (-2.35,1.26)	-0.54 (-2.17,1.09)	-0.45 (-1.97,1.06)	-0.16 (-1.46,1.13)	-0.36 (-1.68,0.97)	-0.30 (-1.74,1.14)	2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)		

***-2.53 (-4.12,-0.94)**	***-1.66 (-2.87,-0.45)**	***-1.63 (-3.08,-0.18)**	-1.63 (-3.29,0.03)	-1.19 (-2.48,0.10)	-0.92 (-2.27,0.43)	-0.79 (-1.92,0.33)	-0.77 (-1.87,0.33)	-0.84 (-2.55,0.88)	-0.77 (-2.53,0.98)	-0.73 (-1.97,0.50)	-0.72 (-2.26,0.82)	-0.72 (-2.28,0.83)	-0.57 (-2.23,1.09)	-0.53 (-2.15,1.10)	-0.53 (-1.96,0.91)	-0.44 (-1.74,0.86)	-0.15 (-1.83,1.53)	-0.34 (-1.41,0.73)	-0.29 (-1.50,0.93)	0.01 (-1.69,1.72)	1 Hz rTMS at right PFC (F4)	
***-2.54 (-4.09,-0.98)**	***-1.66 (-2.82,-0.50)**	***-1.64 (-3.05,-0.23)**	***-1.63 (-3.26,-0.01)**	-1.19 (-2.44,0.05)	-0.93 (-2.24,0.38)	-0.80 (-1.87,0.27)	-0.78 (-1.82,0.27)	-0.84 (-2.52,0.84)	-0.78 (-2.50,0.95)	-0.74 (-1.93,0.45)	-0.73 (-2.23,0.78)	-0.73 (-2.25,0.79)	-0.58 (-2.21,1.05)	-0.53 (-2.13,1.06)	-0.53 (-1.92,0.86)	-0.45 (-1.70,0.81)	-0.16 (-1.80,1.49)	-0.35 (-1.37,0.67)	-0.29 (-1.46,0.87)	0.01 (-1.66,1.68)	-0.01 (-1.48,1.47)	Theta-range rTMS at Iz (vermal part of cerebellum)

Pairwise (upper-right portion) and network (lower-left portion) meta-analysis results are presented as estimate effect sizes for the outcome of improvement of negative symptoms in patients with schizophrenia/schizoaffective disorder. Interventions are reported in order of mean ranking of improvement of negative symptoms, and outcomes are expressed as standardized mean difference (SMD) (95% confidence intervals). For the pairwise meta-analyses, SMD of less than 0 indicate that the treatment specified in the row got more improvement than that specified in the column. For the network meta-analysis (NMA), SMD of less than 0 indicate that the treatment specified in the column got more improvement than that specified in the row. Bold results marked with * indicate statistical significance.

eTable 10B: League table of the tolerability in aspect of drop-out rate

hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)											0.33 (0.04,2.69) n=1								
0.68 (0.06,8.30)	iTBS at left DLPFC (F3)	1.04 (0.10,10.45) n=2	0.44 (0.06,3.16) n=2								0.42 (0.10,1.73) n=3								
0.49 (0.06,4.16)	0.71 (0.17,2.99)	hf (10Hz) rTMS at left DLPFC (F3)	0.46 (0.19,1.12) n=3								0.78 (0.46,1.32) n=8								
0.36 (0.04,3.08)	0.53 (0.13,2.19)	0.75 (0.40,1.39)	extreme hf (20Hz) rTMS at left DLPFC (F3)								0.87 (0.48,1.58) n=8								
0.36 (0.03,4.63)	0.53 (0.07,3.93)	0.74 (0.16,3.51)	0.99 (0.21,4.64)	1 Hz rTMS at right PFC (F4)							0.92 (0.21,4.00) n=1								
0.38 (0.01,14.15)	0.56 (0.02,14.44)	0.78 (0.04,15.65)	1.05 (0.05,20.82)	1.05 (0.04,28.49)	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)					0.87 (0.05,16.67) n=1	0.88 (0.05,16.74) n=1								
0.33 (0.01,12.50)	0.49 (0.02,12.77)	0.69 (0.03,13.85)	0.92 (0.05,18.43)	0.92 (0.03,25.19)	0.88 (0.01,57.33)	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1					1.00 (0.05,19.36) n=1								
0.33 (0.02,5.45)	0.49 (0.05,4.91)	0.69 (0.10,4.71)	0.92 (0.13,6.24)	0.92 (0.09,9.86)	0.88 (0.03,28.64)	1.00 (0.03,33.06)	1 Hz deep rTMS at PT3 (left temporo-parietal cortex)				1.00 (0.16,6.42) n=1								
0.33 (0.02,5.33)	0.49 (0.05,4.78)	0.69 (0.10,4.55)	0.92 (0.14,6.04)	0.92 (0.09,9.59)	0.88 (0.03,28.12)	1.00 (0.03,32.46)	1.00 (0.07,13.53)	2 mA Anode tDCS at F3, cathode at Fp2			1.00 (0.16,6.20) n=1								
0.33 (0.01,12.26)	0.49 (0.02,12.50)	0.69 (0.03,13.54)	0.92 (0.05,18.01)	0.92 (0.03,24.67)	0.88 (0.01,56.40)	1.00 (0.02,64.99)	1.00 (0.03,32.41)	1.00 (0.03,31.82)	1 Hz rTMS at PT3 (left temporo-parietal cortex)		1.00 (0.05,18.92) n=1			0.67 (0.10, 4.42) n=1					
0.33 (0.01,12.50)	0.49 (0.02,12.77)	0.69 (0.03,13.85)	0.92 (0.05,18.43)	0.92 (0.03,25.19)	0.87 (0.05,16.74)	1.00 (0.02,66.06)	1.00 (0.03,33.06)	1.00 (0.03,32.46)	1.00 (0.02,64.99)	2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)	1.00 (0.05,19.36) n=1								
0.33 (0.04,2.69)	0.49 (0.12,1.92)	0.69 (0.41,1.14)	0.92 (0.57,1.47)	0.92 (0.21,4.00)	0.88 (0.05,16.74)	1.00 (0.05,19.36)	1.00 (0.16,6.42)	1.00 (0.16,6.20)	1.00 (0.05,18.91)	1.00 (0.05,19.36)	Sham	1.00 (0.11,8.95) n=1	0.75 (0.15,3.79) n=1		0.78 (0.33,1.86) n=3	0.60 (0.19,1.90) n=1	0.33 (0.01,8.93) n=1	0.32 (0.01,8.26) n=1	0.18 (0.02,1.63) n=1
0.33 (0.02,6.87)	0.49 (0.04,6.47)	0.69 (0.07,6.50)	0.92 (0.10,8.63)	0.92 (0.07,12.90)	0.88 (0.02,34.56)	1.00 (0.03,39.86)	1.00 (0.06,17.71)	1.00 (0.06,17.31)	1.00 (0.03,39.12)	1.00 (0.03,39.86)	1.00 (0.11,8.95)	tVNS at left auricle							
0.25 (0.02,3.51)	0.37 (0.04,3.05)	0.51 (0.09,2.81)	0.69 (0.13,3.72)	0.69 (0.08,6.16)	0.66 (0.02,19.03)	0.75 (0.03,21.97)	0.75 (0.06,8.83)	0.75 (0.07,8.61)	0.75 (0.03,21.52)	0.75 (0.03,21.97)	0.75 (0.15,3.79)	0.75 (0.05,11.44)	Theta-range rTMS at Iz						

													(vermal part of cerebellum)						
0.22 (0.00,13.04)	0.33 (0.01,13.91)	0.46 (0.01,15.65)	0.61 (0.02,20.83)	0.62 (0.01,27.29)	0.58 (0.01,56.66)	0.67 (0.01,65.24)	0.67 (0.01,34.99)	0.67 (0.01,34.43)	0.67 (0.10,4.43)	0.67 (0.01,65.24)	0.67 (0.02,22.01)	0.67 (0.01,41.32)	0.89 (0.02,41.94)	6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3					
0.26 (0.03,2.49)	0.38 (0.08,1.93)	0.53 (0.20,1.46)	0.72 (0.27,1.92)	0.72 (0.13,3.96)	0.68 (0.03,14.79)	0.78 (0.04,17.09)	0.78 (0.10,6.07)	0.78 (0.10,5.88)	0.78 (0.04,16.72)	0.78 (0.04,17.09)	0.78 (0.33,1.86)	0.78 (0.07,8.23)	1.04 (0.17,6.53)	1.17 (0.03,42.93)	iTBS at Iz (vermal part of cerebellum)				
0.20 (0.02,2.17)	0.29 (0.05,1.75)	0.41 (0.12,1.45)	0.55 (0.16,1.91)	0.55 (0.09,3.58)	0.52 (0.02,12.48)	0.60 (0.02,14.42)	0.60 (0.07,5.35)	0.60 (0.07,5.19)	0.60 (0.03,14.11)	0.60 (0.02,14.42)	0.60 (0.19,1.90)	0.60 (0.05,7.14)	0.80 (0.11,5.84)	0.90 (0.02,35.76)	0.77 (0.18,3.26)	2 mA Anode tDCS at F3, cathode at F4		
0.11 (0.00,5.46)	0.16 (0.00,5.73)	0.23 (0.01,6.37)	0.31 (0.01,8.47)	0.31 (0.01,11.27)	0.29 (0.00,24.20)	0.33 (0.00,27.88)	0.33 (0.01,14.57)	0.33 (0.01,14.33)	0.33 (0.00,27.45)	0.33 (0.00,27.88)	0.33 (0.01,8.93)	0.33 (0.01,17.34)	0.44 (0.01,17.37)	0.50 (0.00,60.77)	0.43 (0.01,12.82)	0.56 (0.02,18.12)	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)		
0.11 (0.00,5.07)	0.15 (0.00,5.31)	0.22 (0.01,5.89)	0.29 (0.01,7.84)	0.29 (0.01,10.45)	0.28 (0.00,22.53)	0.32 (0.00,25.95)	0.32 (0.01,13.53)	0.32 (0.01,13.30)	0.32 (0.00,25.55)	0.32 (0.00,25.95)	0.32 (0.01,8.27)	0.32 (0.01,16.11)	0.42 (0.01,16.12)	0.47 (0.00,56.64)	0.40 (0.01,11.88)	0.53 (0.02,16.79)	0.95 (0.01,97.47)	High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4	
0.06 (0.00,1.26)	0.09 (0.01,1.18)	0.13 (0.01,1.19)	0.17 (0.02,1.57)	0.17 (0.01,2.36)	0.16 (0.00,6.32)	0.18 (0.00,7.29)	0.18 (0.01,3.24)	0.18 (0.01,3.16)	0.18 (0.00,7.16)	0.18 (0.00,7.29)	0.18 (0.02,1.63)	0.18 (0.01,4.05)	0.24 (0.02,3.72)	0.28 (0.00,17.02)	0.24 (0.02,2.47)	0.31 (0.03,3.62)	0.55 (0.01,28.56)	0.58 (0.01,29.65)	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)

Pairwise (upper-right portion) and network (lower-left portion) meta-analysis results are presented as estimate effect sizes for the outcome of tolerability in aspect of drop-out rate in patients with schizophrenia/schizoaffective disorder. Interventions are reported in order of mean ranking of tolerability in aspect of drop-out rate, and outcomes are expressed as odds ratio (OR) (95% confidence intervals). For the pairwise meta-analyses, OR of less than 1 indicate that the treatment specified in the row got more tolerability than that specified in the column. For the network meta-analysis (NMA), OR of less than 1 indicate that the treatment specified in the column got more tolerability than that specified in the row. Bold results marked with * indicate statistical significance.

Abbreviation: 95%CI: 95% confidence interval; a-tDCS-F3 + c-tDCS-F4: 2 mA Anode tDCS at F3, cathode at F4; a-tDCS-F3 + c-tDCS-Fp2: 2 mA Anode tDCS at F3, cathode at Fp2; a-tDCS-F3 + c-tDCS-TP3: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ); a-tDCS-F3Fp1 + c-tDCS-F4Fp2: 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2; a-tDCS-F3Fp1 + c-tDCS-TP3: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ); a-tDCS-TP3 + c-tDCS-F3Fp1: 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ); DLPFC: dorsolateral prefrontal cortex; ehf-dTMS-F3: 20 Hz deep rTMS at left DLPFC (F3); ehf-rTMS-F3: extreme hf (20Hz) rTMS at left DLPFC (F3); ehf-rTMS-F3F4: extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4); hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1: High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1; hd-tRNS-AF3AF4F2F6FC4: High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4; hf-rTMS-F3: hf (10Hz) rTMS at left DLPFC (F3); hf-rTMS-F3F4: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4); iTBS: intermittent theta-burst stimulation; iTBS-F3: iTBS at left DLPFC (F3); iTBS-Iz : iTBS at Iz (vermal part of cerebellum); lf-dTMS-PT3: 1 Hz deep rTMS at PT3 (left temporo-parietal cortex); lf-rTMS-F4: 1 Hz rTMS at right PFC (F4); lf-rTMS-PT3: 1 Hz rTMS at PT3 (left temporo-parietal cortex); MRI: magnetic resonance imaging; NIBS: noninvasive brain stimulation; NMA: network meta-analysis; OR: odds ratio; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses; prTMS-PT3 + lf-rTMS-PT3: 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3; RCT: randomized controlled trial; rTMS: repetitive transcranial magnetic stimulation; SMD: standardized mean difference; SUCRA: surface under the cumulative ranking curve; tACS-F3Fp1-TP3: 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ); TBS: theta-burst stimulation; tDCS: transcranial direct current stimulation; the-rTMS-Iz : Theta-range rTMS at Iz (vermal part of cerebellum); tRNS: transcranial random noise stimulation; tVNS: transcutaneous vegal nerve stimulation; tVNS: tVNS at left auricle; vmPFC: ventromedial prefrontal cortex; VTA: ventral tegmental area

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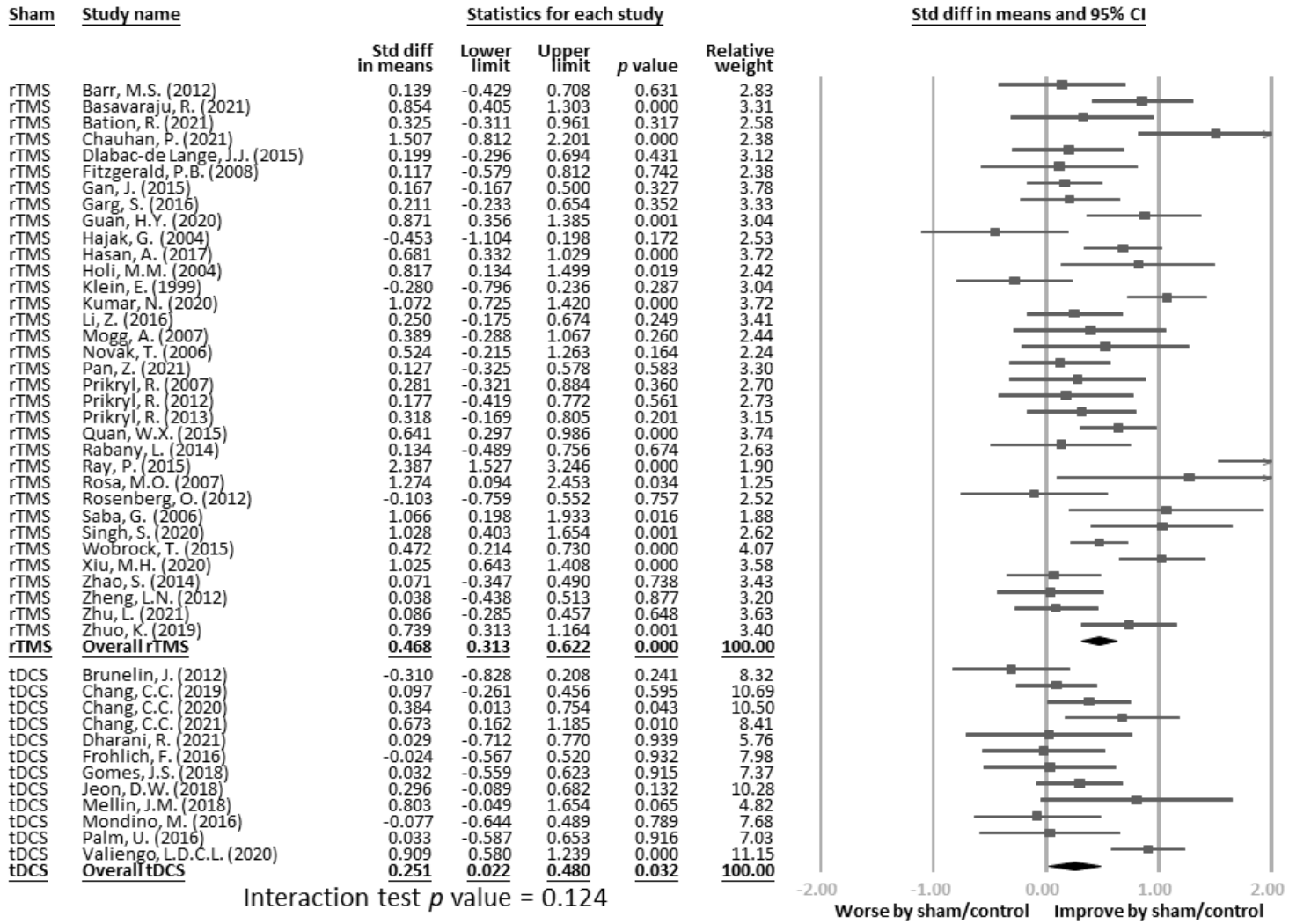
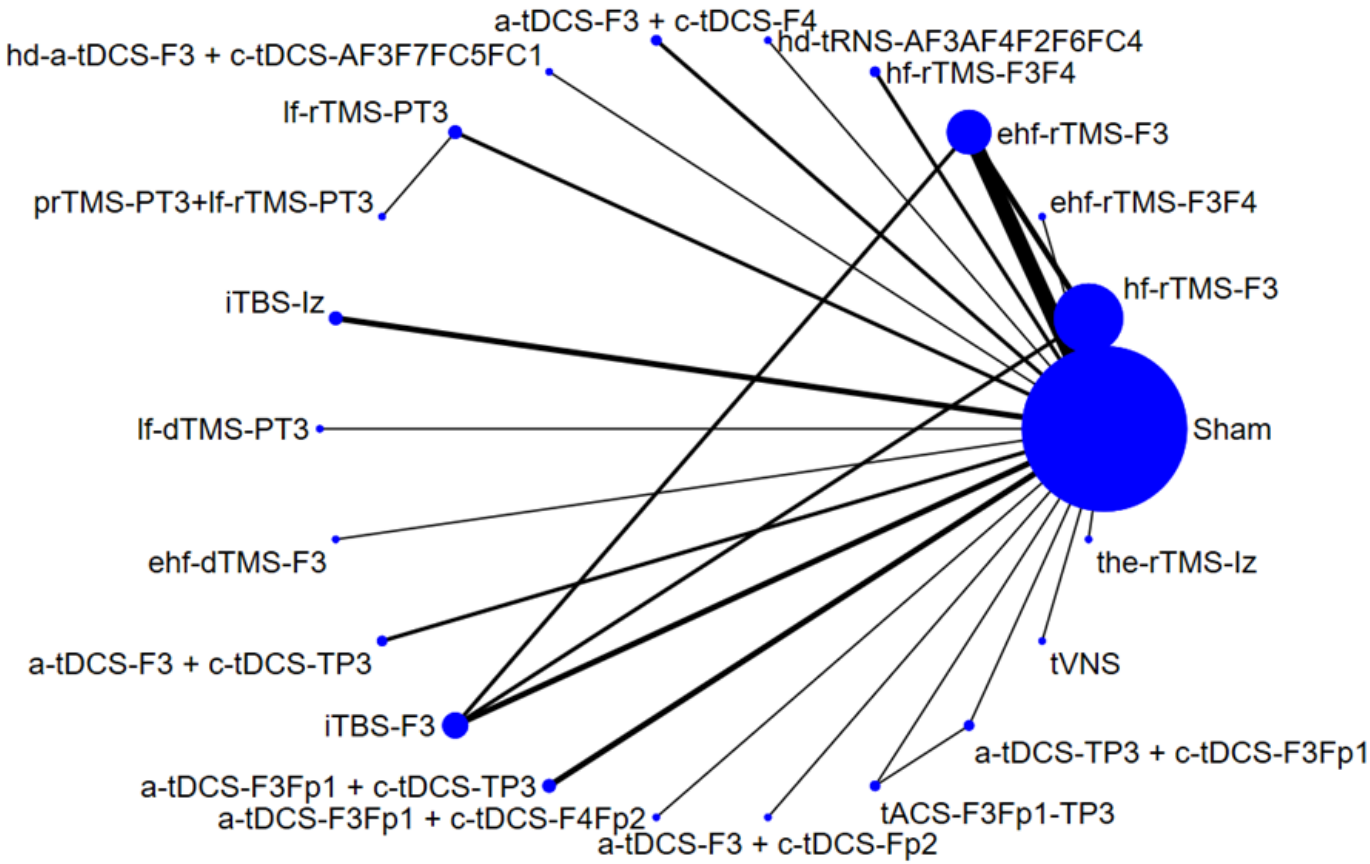


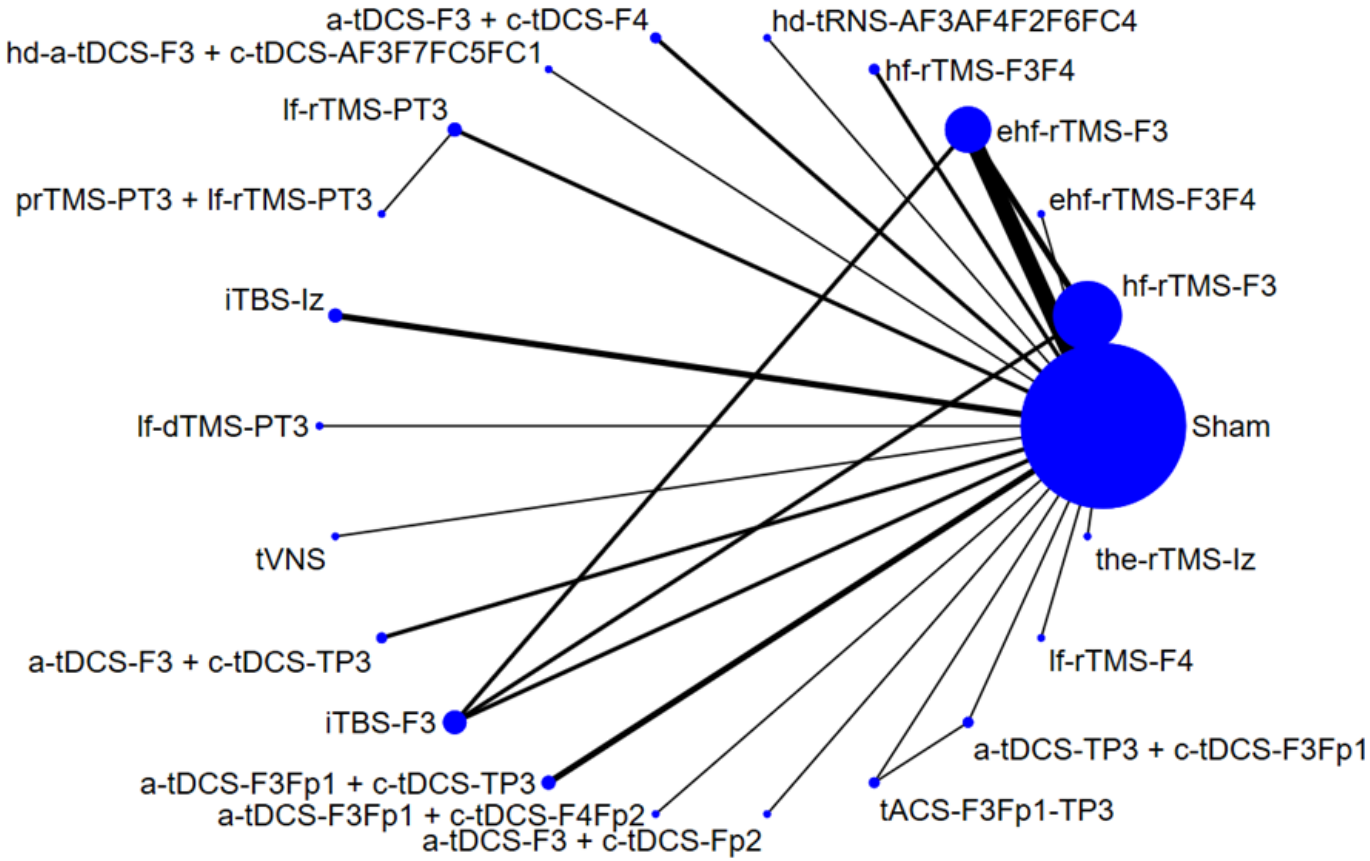
eFigure 1 Test for transitivity assumption: Changes in negative symptoms

Figure legend of eFigure 1

Abbreviation: 95% CI: 95% confidence interval; rTMS: repetitive transcranial magnetic stimulation; Std diff in means: standardized difference in means; ; tDCS: transcranial direct current stimulation



eFigure 2A network structure of primary outcome: negative symptoms: subgroup of definite Dx criteria



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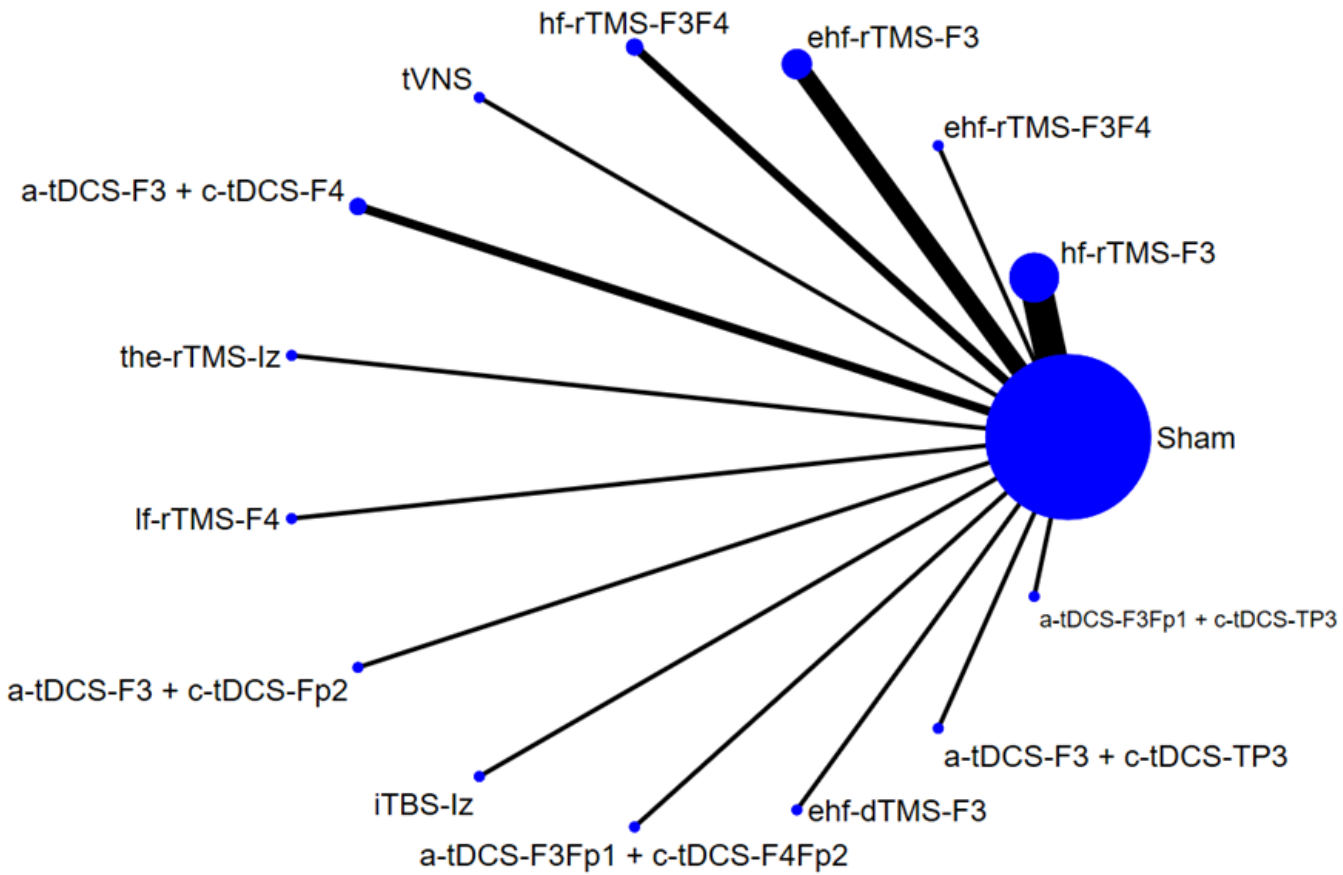
eFigure 2B network structure of secondary outcome: positive symptoms

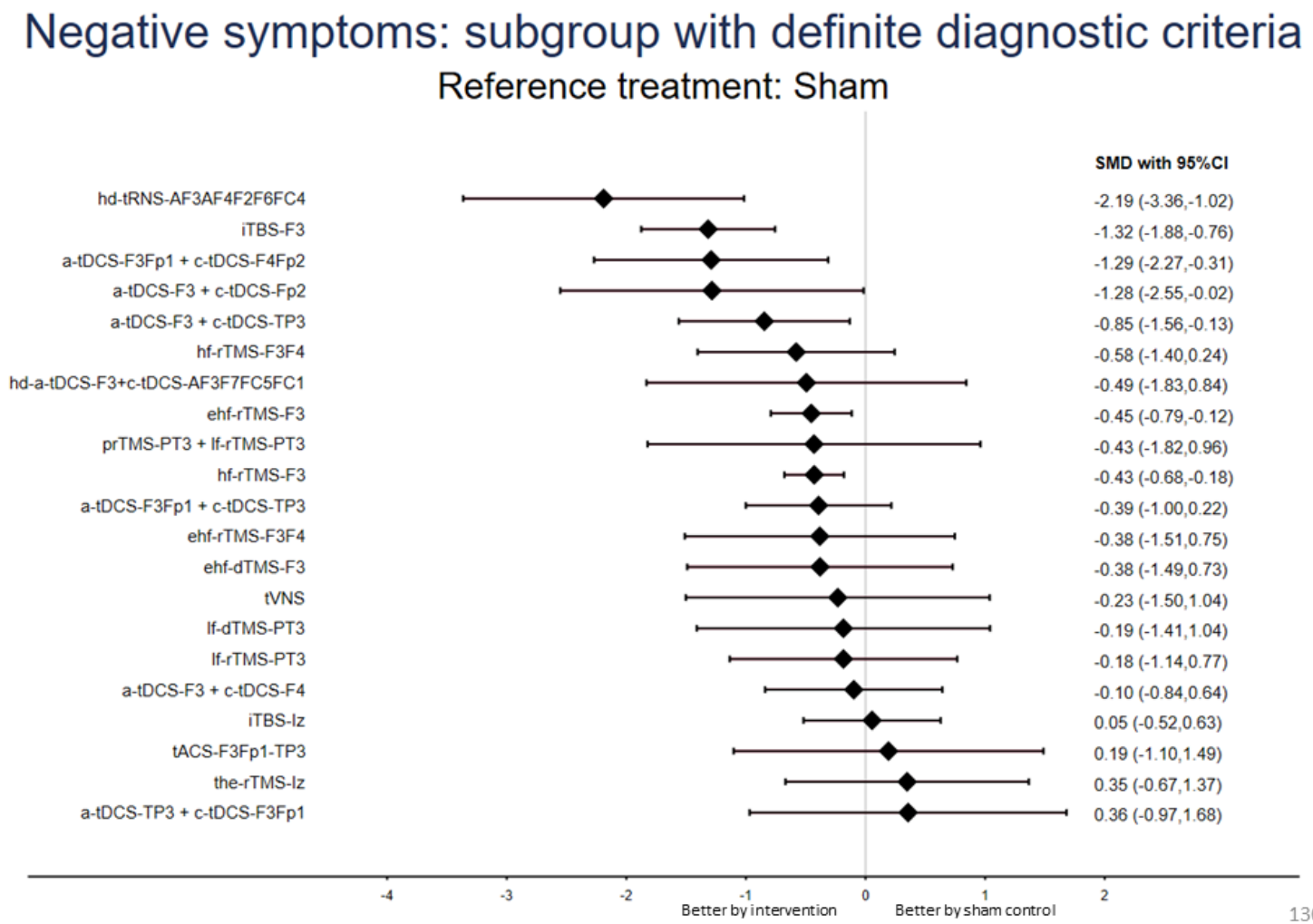


eFigure 2C network structure of secondary outcome: depressive symptoms

Figure legend of eFigure 2A-2C

Lines between nodes represent direct comparisons between trials, and circle size is proportional to the size of the population that received each treatment. Line thickness is proportional to the number of trials connected to the network.

Abbreviation: 95%CI: 95% confidence interval; a-tDCS-F3 + c-tDCS-F4: 2 mA Anode tDCS at F3, cathode at F4; a-tDCS-F3 + c-tDCS-Fp2: 2 mA Anode tDCS at F3, cathode at Fp2; a-tDCS-F3 + c-tDCS-TP3: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ); a-tDCS-F3Fp1 + c-tDCS-F4Fp2: 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2; a-tDCS-F3Fp1 + c-tDCS-TP3: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ); a-tDCS-TP3 + c-tDCS-F3Fp1: 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ); DLPFC: dorsolateral prefrontal cortex; ehf-dTMS-F3: 20 Hz deep rTMS at left DLPFC (F3); ehf-rTMS-F3: extreme hf (20Hz) rTMS at left DLPFC (F3); ehf-rTMS-F3F4: extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4); hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1: High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1; hd-tRNS-AF3AF4F2F6FC4: High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4; hf-rTMS-F3: hf (10Hz) rTMS at left DLPFC (F3); hf-rTMS-F3F4: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4); iTBS: intermittent theta-burst stimulation; iTBS-F3: iTBS at left DLPFC (F3); iTBS-Iz : iTBS at Iz (vermal part of cerebellum); lf-dTMS-PT3: 1 Hz deep rTMS at PT3 (left temporo-parietal cortex); lf-rTMS-F4: 1 Hz rTMS at right PFC (F4); lf-rTMS-PT3: 1 Hz rTMS at PT3 (left temporo-parietal cortex); MRI: magnetic resonance imaging; NIBS: noninvasive brain stimulation; NMA: network meta-analysis; OR: odds ratio; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses; prTMS-PT3 + lf-rTMS-PT3: 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3; RCT: randomized controlled trial; rTMS: repetitive transcranial magnetic stimulation; SMD: standardized mean difference; SUCRA: surface under the cumulative ranking curve; tACS-F3Fp1-TP3: 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ); TBS: theta-burst stimulation; tDCS: transcranial direct current stimulation; the-rTMS-Iz : Theta-range rTMS at Iz (vermal part of cerebellum); tRNS: transcranial random noise stimulation; tVNS: transcutaneous vegal nerve stimulation; tVNS: tVNS at left auricle; vmPFC: ventromedial prefrontal cortex; VTA: ventral tegmental area



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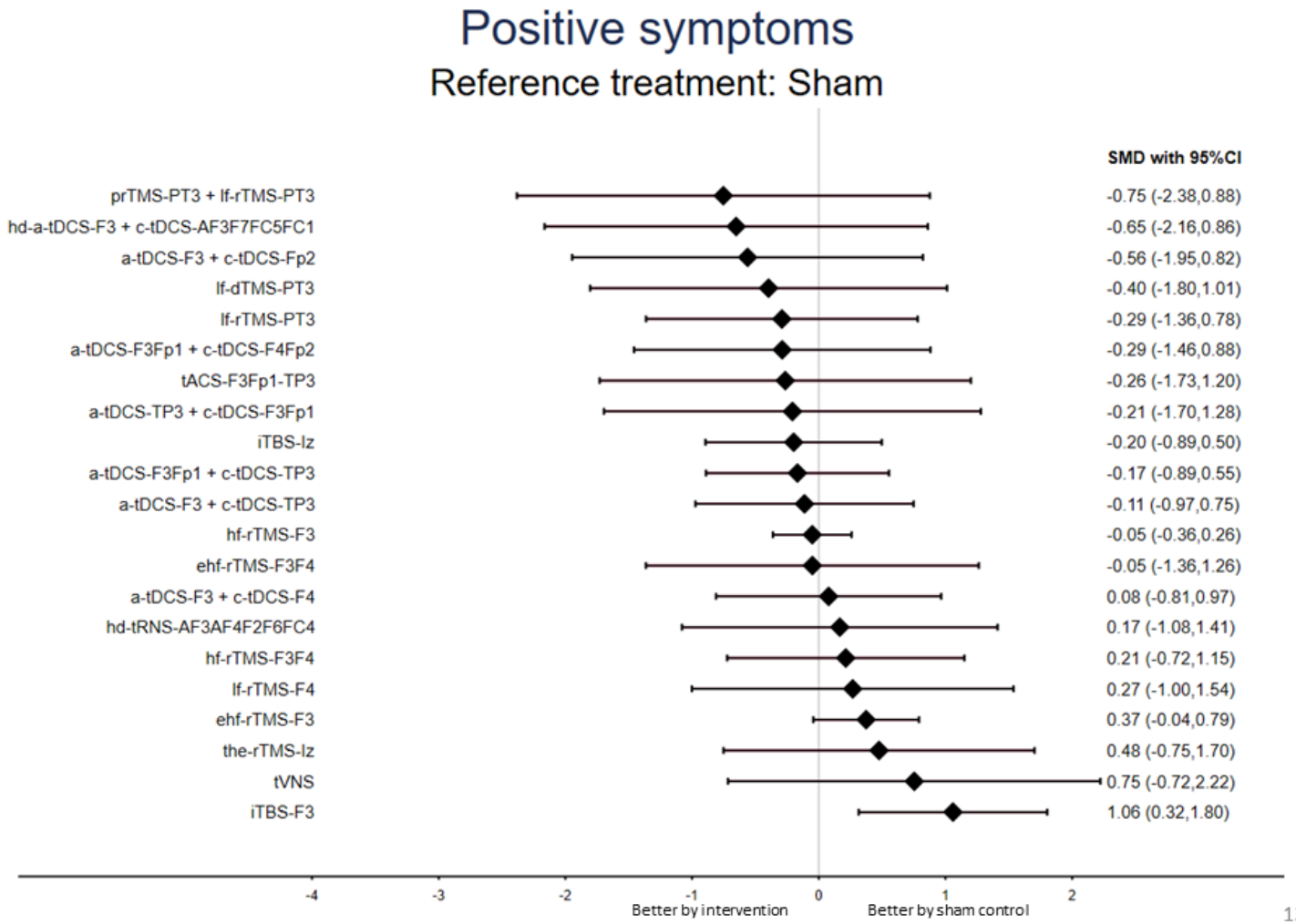
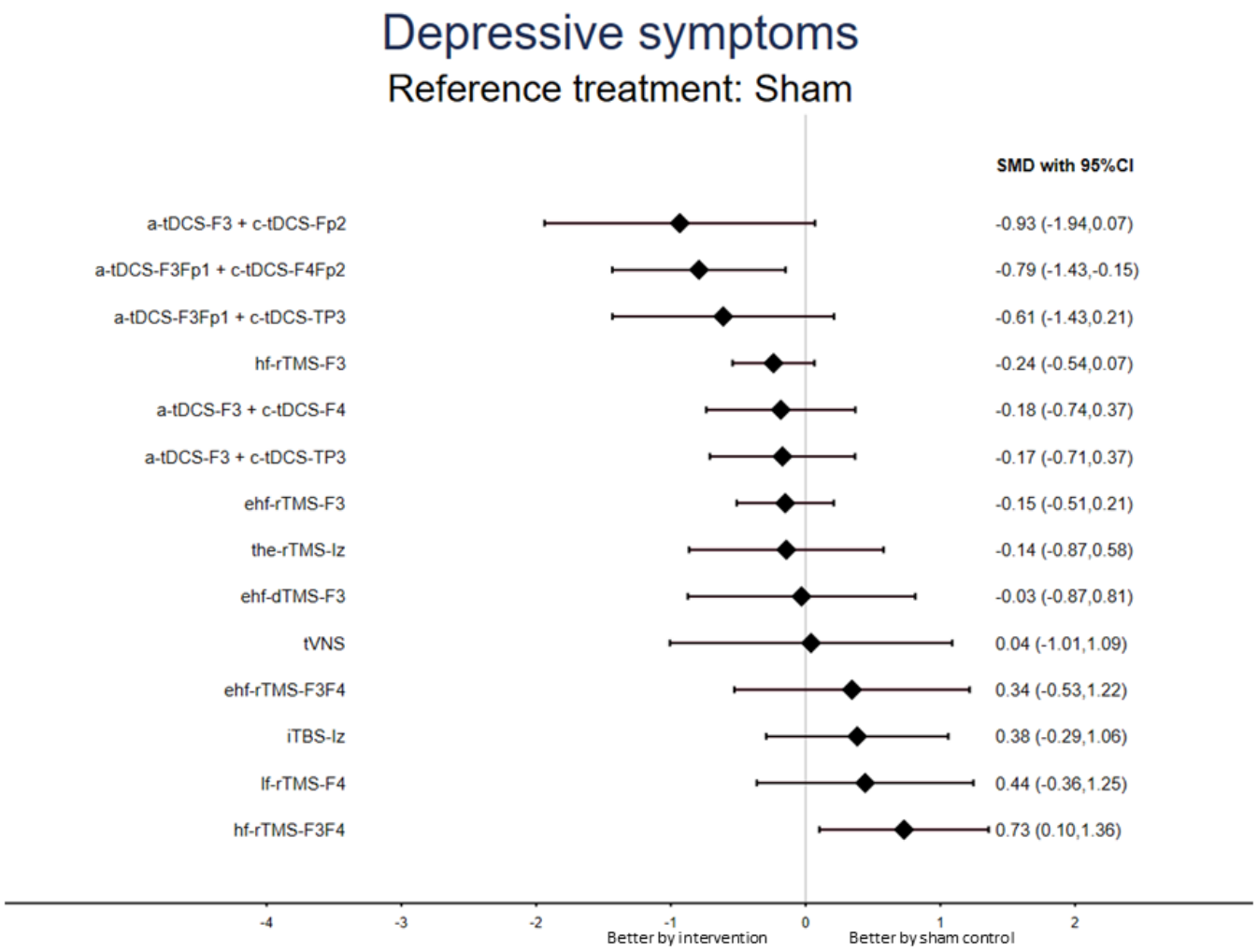
eFigure 3A forest plot of primary outcome: negative symptoms: subgroup of definite Dx criteria



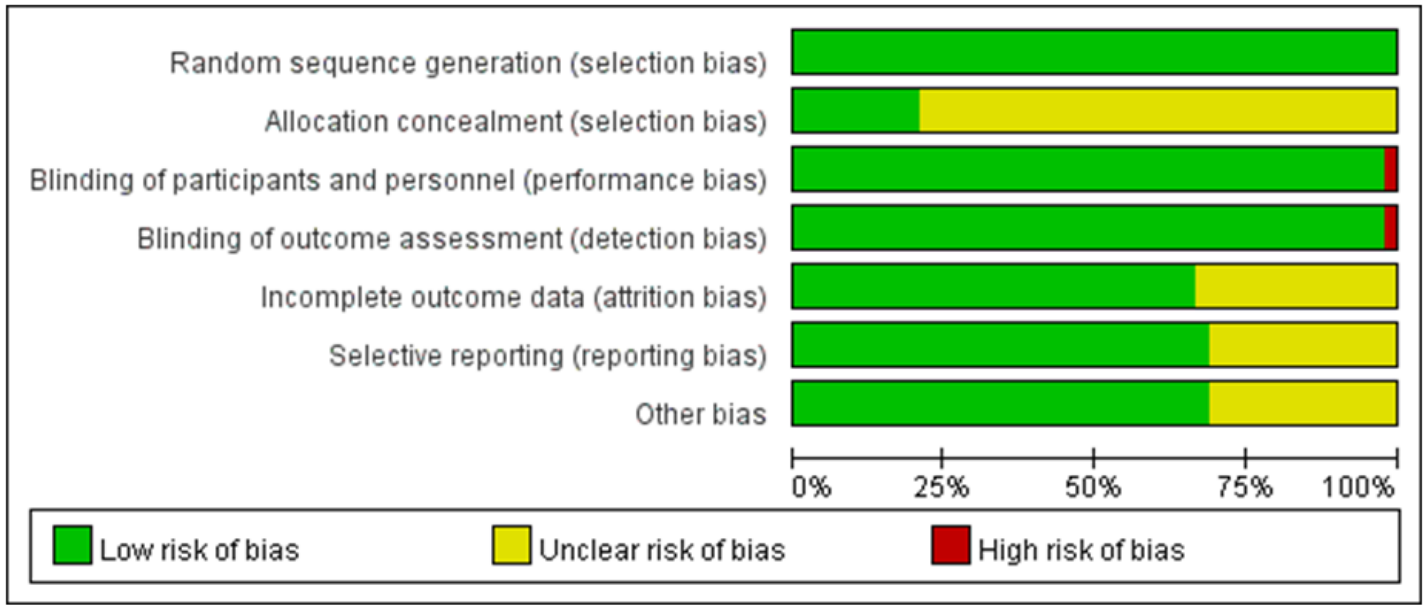
eFigure 3B forest plot of secondary outcome: positive symptoms



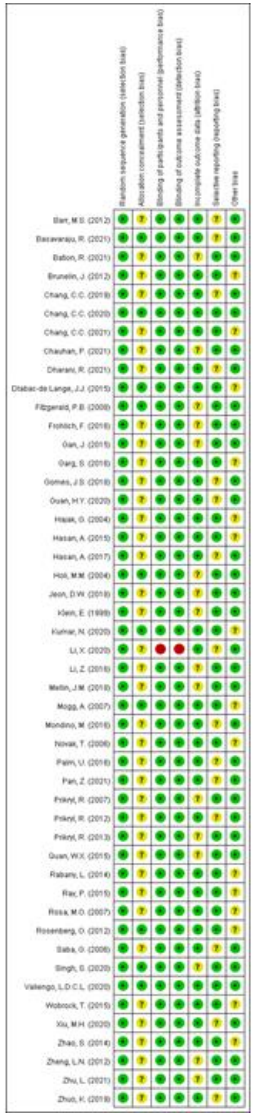
eFigure 3C forest plot of secondary outcome: depressive symptoms

Figure legend of eFigure 3A-3C

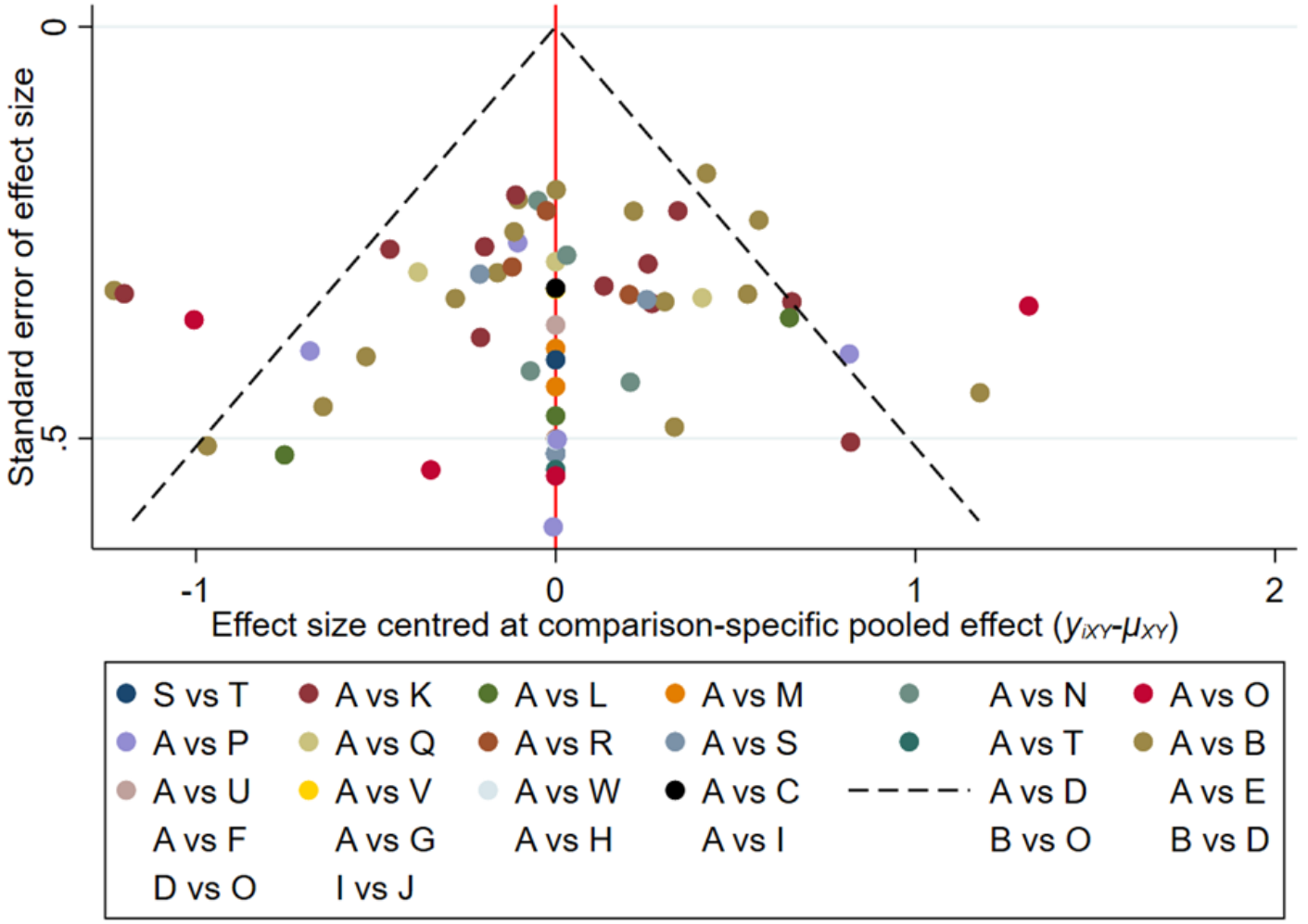
Abbreviation: 95%CI: 95% confidence interval; a-tDCS-F3 + c-tDCS-F4: 2 mA Anode tDCS at F3, cathode at F4; a-tDCS-F3 + c-tDCS-Fp2: 2 mA Anode tDCS at F3, cathode at Fp2; a-tDCS-F3 + c-tDCS-TP3: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ); a-tDCS-F3Fp1 + c-tDCS-F4Fp2: 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2; a-tDCS-F3Fp1 + c-tDCS-TP3: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ); a-tDCS-TP3 + c-tDCS-F3Fp1: 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ); DLPFC: dorsolateral prefrontal cortex; ehf-dTMS-F3: 20 Hz deep rTMS at left DLPFC (F3); ehf-rTMS-F3: extreme hf (20Hz) rTMS at left DLPFC (F3); ehf-rTMS-F3F4: extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4); hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1: High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1; hd-tRNS-AF3AF4F2F6FC4: High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4; hf-rTMS-F3: hf (10Hz) rTMS at left DLPFC (F3); hf-rTMS-F3F4: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4); iTBS: intermittent theta-burst stimulation; iTBS-F3: iTBS at left DLPFC (F3); iTBS-Iz : iTBS at Iz (vermal part of cerebellum); lf-dTMS-PT3: 1 Hz deep rTMS at PT3 (left temporo-parietal cortex); lf-rTMS-F4: 1 Hz rTMS at right PFC (F4); lf-rTMS-PT3: 1 Hz rTMS at PT3 (left temporo-parietal cortex); MRI: magnetic resonance imaging; NIBS: noninvasive brain stimulation; NMA: network meta-analysis; OR: odds ratio; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses; prTMS-PT3 + lf-rTMS-PT3: 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3; RCT: randomized controlled trial; rTMS: repetitive transcranial magnetic stimulation; SMD: standardized mean difference; SUCRA: surface under the cumulative ranking curve; tACS-F3Fp1-TP3: 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ); TBS: theta-burst stimulation; tDCS: transcranial direct current stimulation; the-rTMS-Iz : Theta-range rTMS at Iz (vermal part of cerebellum); tRNS: transcranial random noise stimulation; tVNS: transcutaneous vegal nerve stimulation; tVNS: tVNS at left auricle; vmPFC: ventromedial prefrontal cortex; VTA: ventral tegmental area



eFigure 4A overview of risk of bias



eFigure 4B detailed risk of bias in each study



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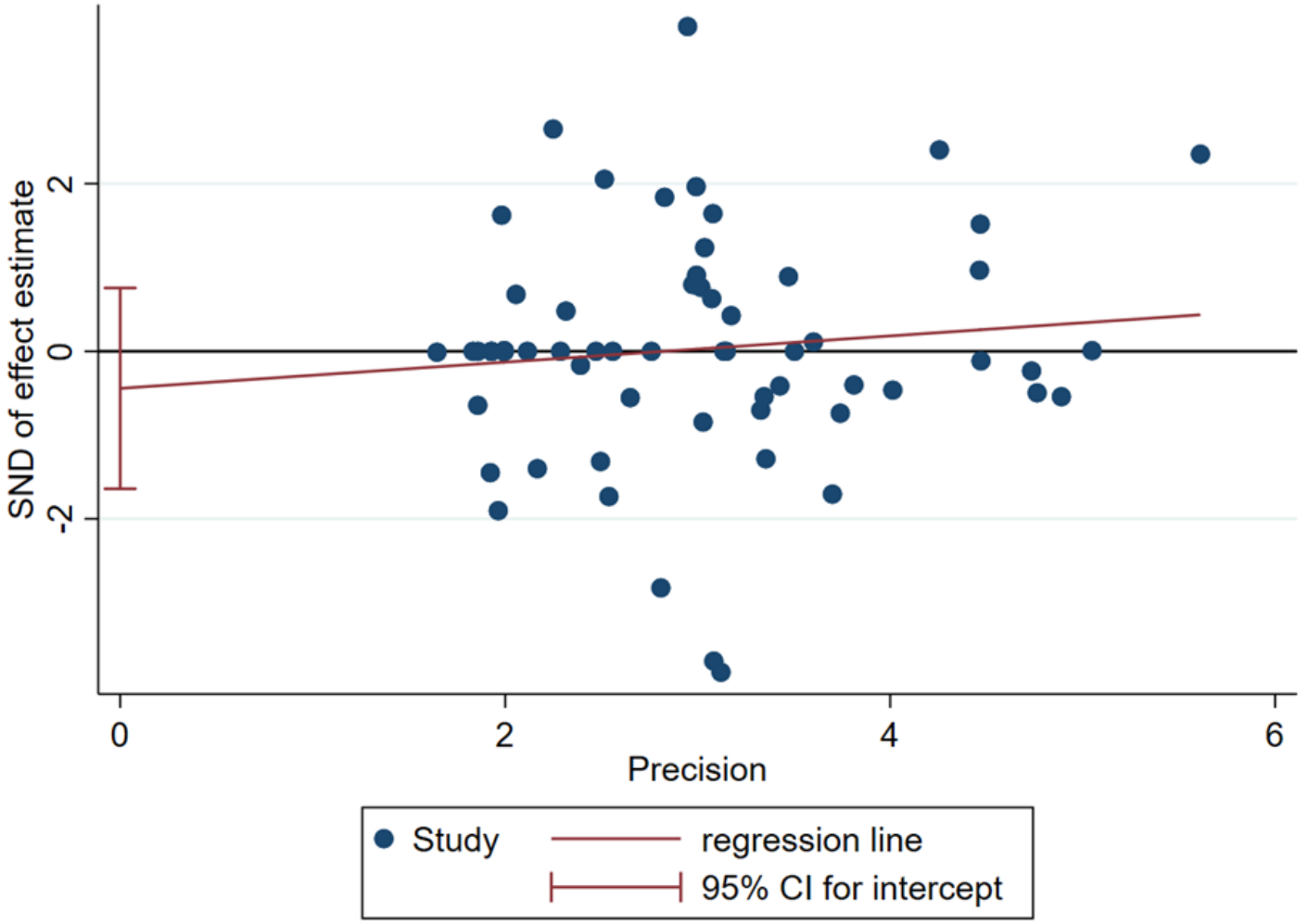
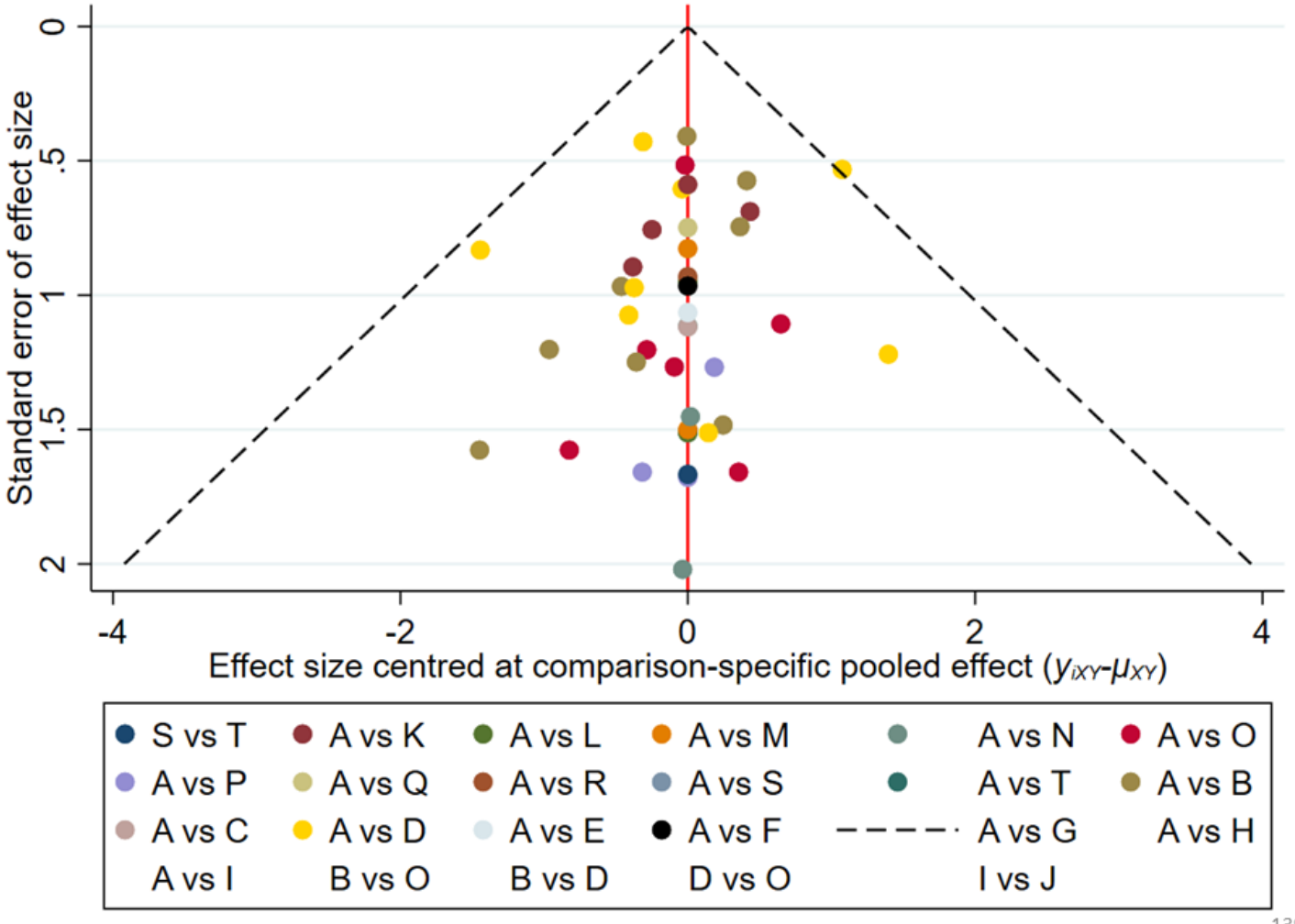
eFigure 5A Funnel plot of primary outcome: negative symptoms

Treatments used in eFigure 5A

A: Sham
B: hf (10Hz) rTMS at left DLPFC (F3)
C: extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)
D: extreme hf (20Hz) rTMS at left DLPFC (F3)
E: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)
F: High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4
G: 2 mA Anode tDCS at F3, cathode at F4
H: High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1
I: 1 Hz rTMS at PT3 (left temporo-parietal cortex)
J: 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3
K: iTBS at Iz (vermal part of cerebellum)
L: 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)
M: 20 Hz deep rTMS at left DLPFC (F3)
N: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)
O: iTBS at left DLPFC (F3)
P: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)
Q: 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2
R: 2 mA Anode tDCS at F3, cathode at Fp2
S: 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)
T: 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)
U: 1 Hz rTMS at right PFC (F4)
V: Theta-range rTMS at Iz (vermal part of cerebellum)
W: tVNS at left auricle



eFigure 5B Egger's regression of primary outcome: negative symptoms



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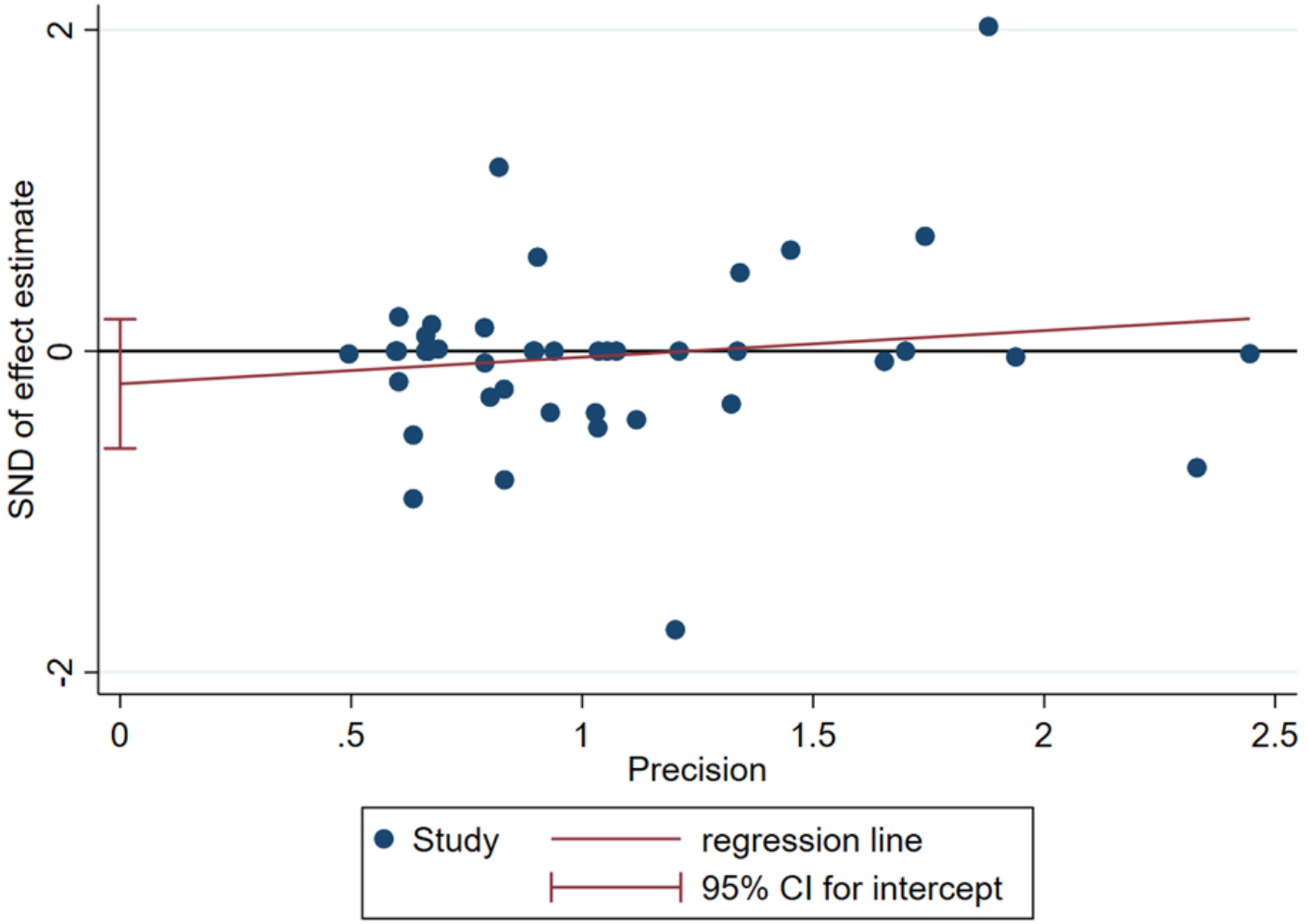
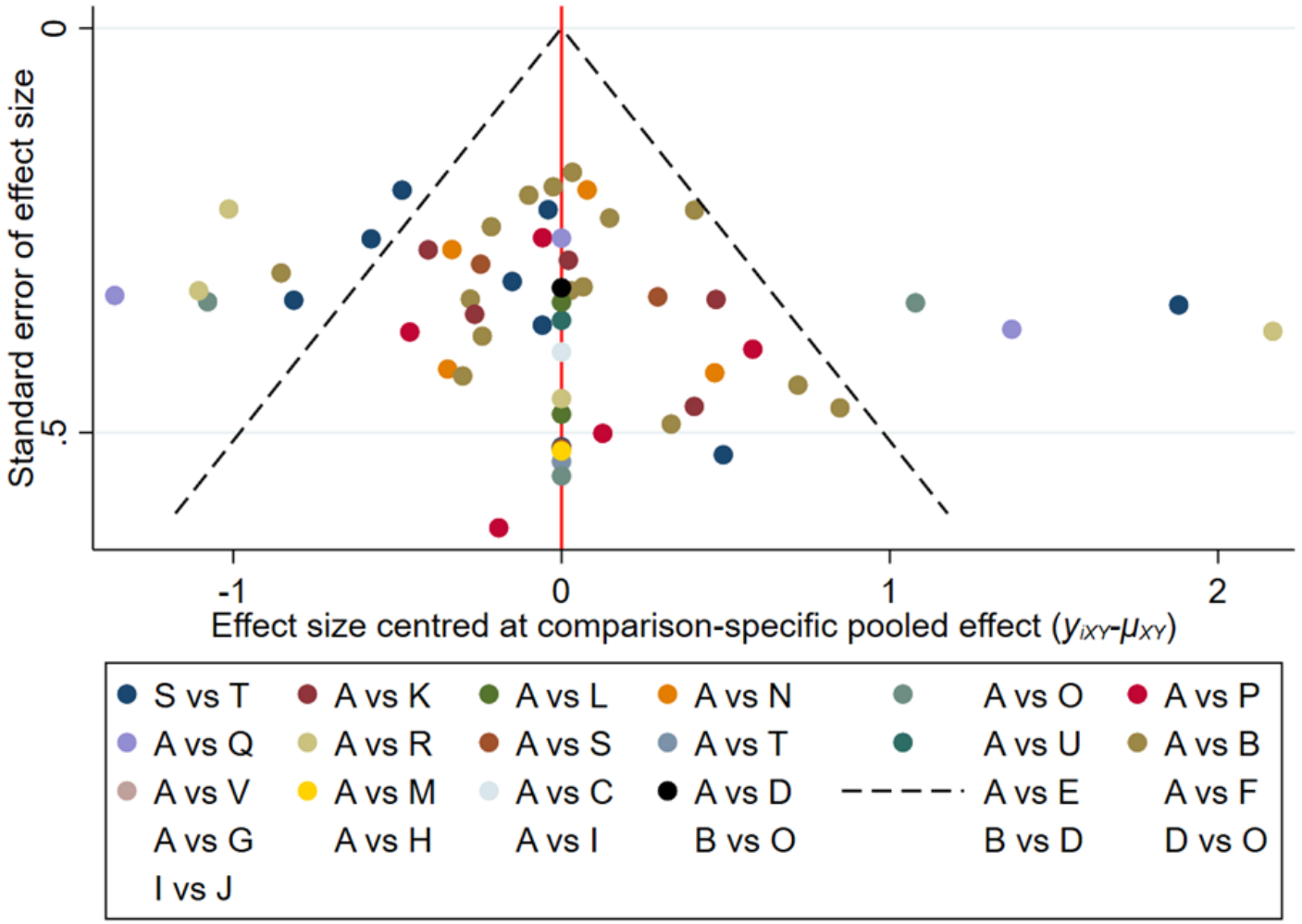
eFigure 5C Funnel plot of acceptability: drop-out rate

Treatments used in eFigure 5C

A: Sham
B: hf (10Hz) rTMS at left DLPFC (F3)
C: tVNS at left auricle
D: extreme hf (20Hz) rTMS at left DLPFC (F3)
E: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)
F: High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4
G: 2 mA Anode tDCS at F3, cathode at F4
H: High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1
I: 1 Hz rTMS at PT3 (left temporo-parietal cortex)
J: 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3
K: iTBS at Iz (vermal part of cerebellum)
L: 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)
M: Theta-range rTMS at Iz (vermal part of cerebellum)
N: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)
O: iTBS at left DLPFC (F3)
P: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)
Q: 1 Hz rTMS at right PFC (F4)
R: 2 mA Anode tDCS at F3, cathode at Fp2
S: 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)
T: 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)



eFigure 5D Egger's regression of acceptability: drop-out rate



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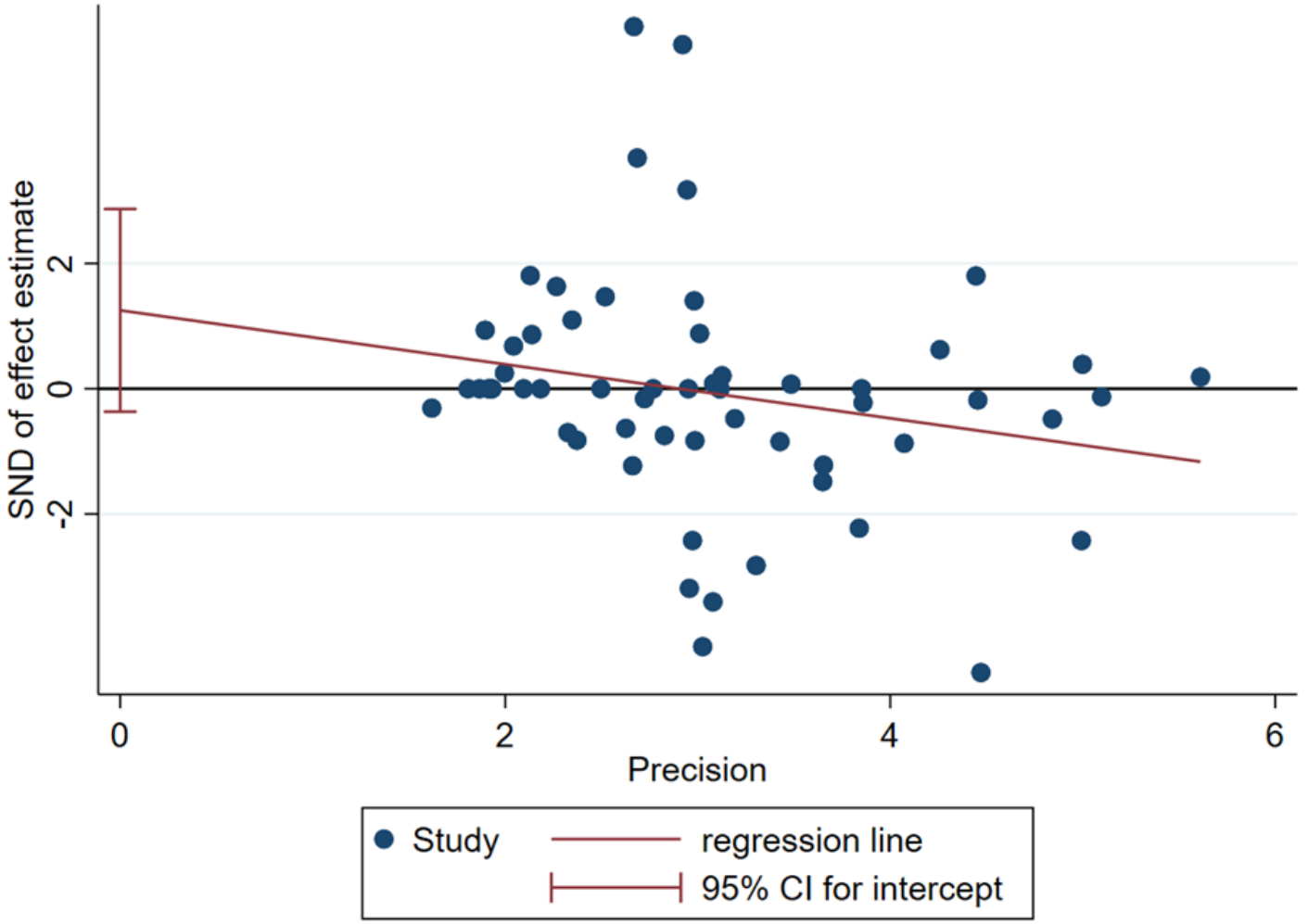
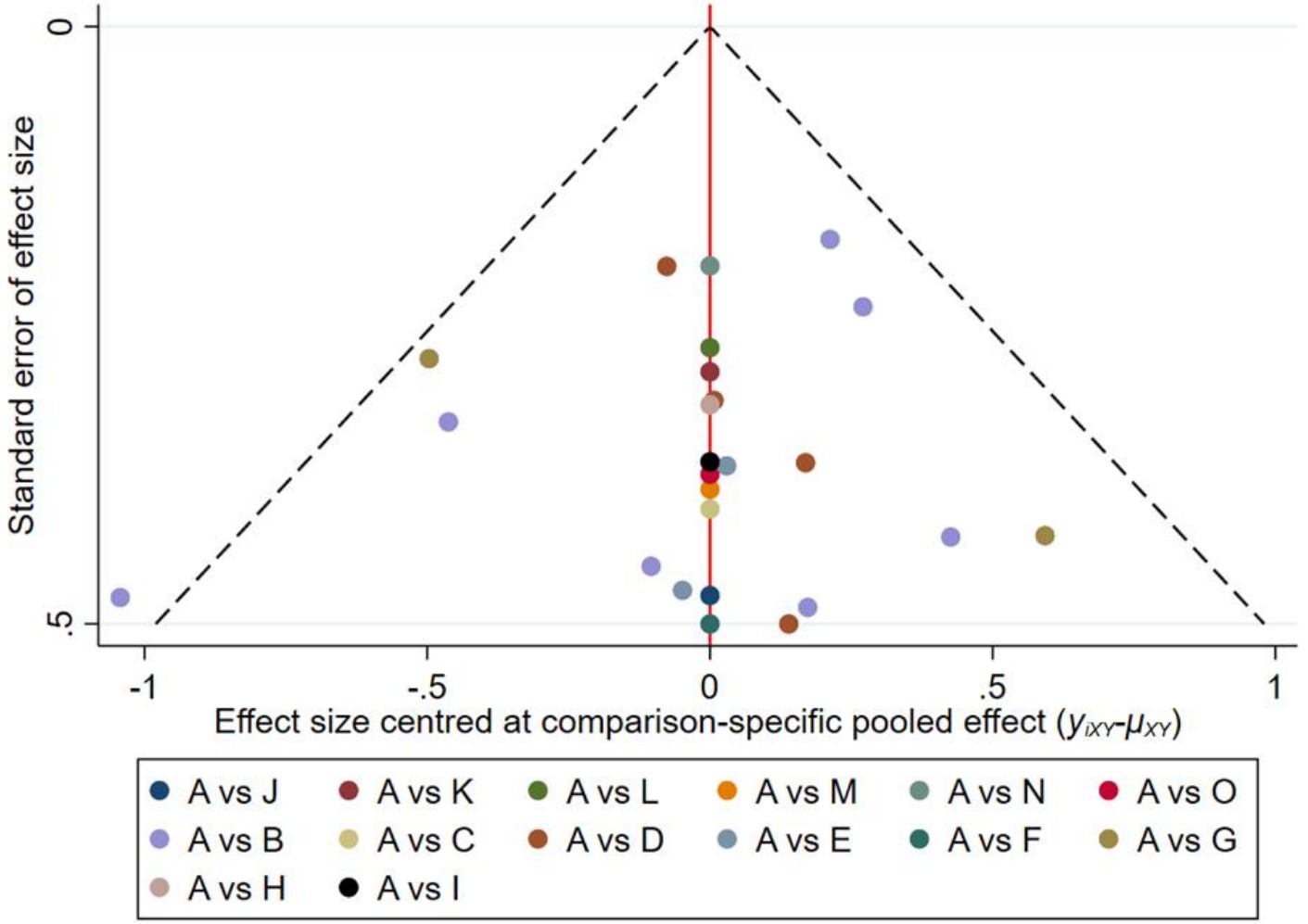
eFigure 5E Funnel plot of secondary outcome: positive symptoms

Treatments used in eFigure 5E

A: Sham
B: hf (10Hz) rTMS at left DLPFC (F3)
C: extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)
D: extreme hf (20Hz) rTMS at left DLPFC (F3)
E: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)
F: High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4
G: 2 mA Anode tDCS at F3, cathode at F4
H: High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1
I: 1 Hz rTMS at PT3 (left temporo-parietal cortex)
J: 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3
K: iTBS at Iz (vermal part of cerebellum)
L: 1 Hz deep rTMS at PT3 (left temporo-parietal cortex)
M: tVNS at left auricle
N: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)
O: iTBS at left DLPFC (F3)
P: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)
Q: 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2
R: 2 mA Anode tDCS at F3, cathode at Fp2
S: 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)
T: 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)
U: 1 Hz rTMS at right PFC (F4)
V: Theta-range rTMS at Iz (vermal part of cerebellum)



eFigure 5F Egger's regression of secondary outcome: positive symptoms



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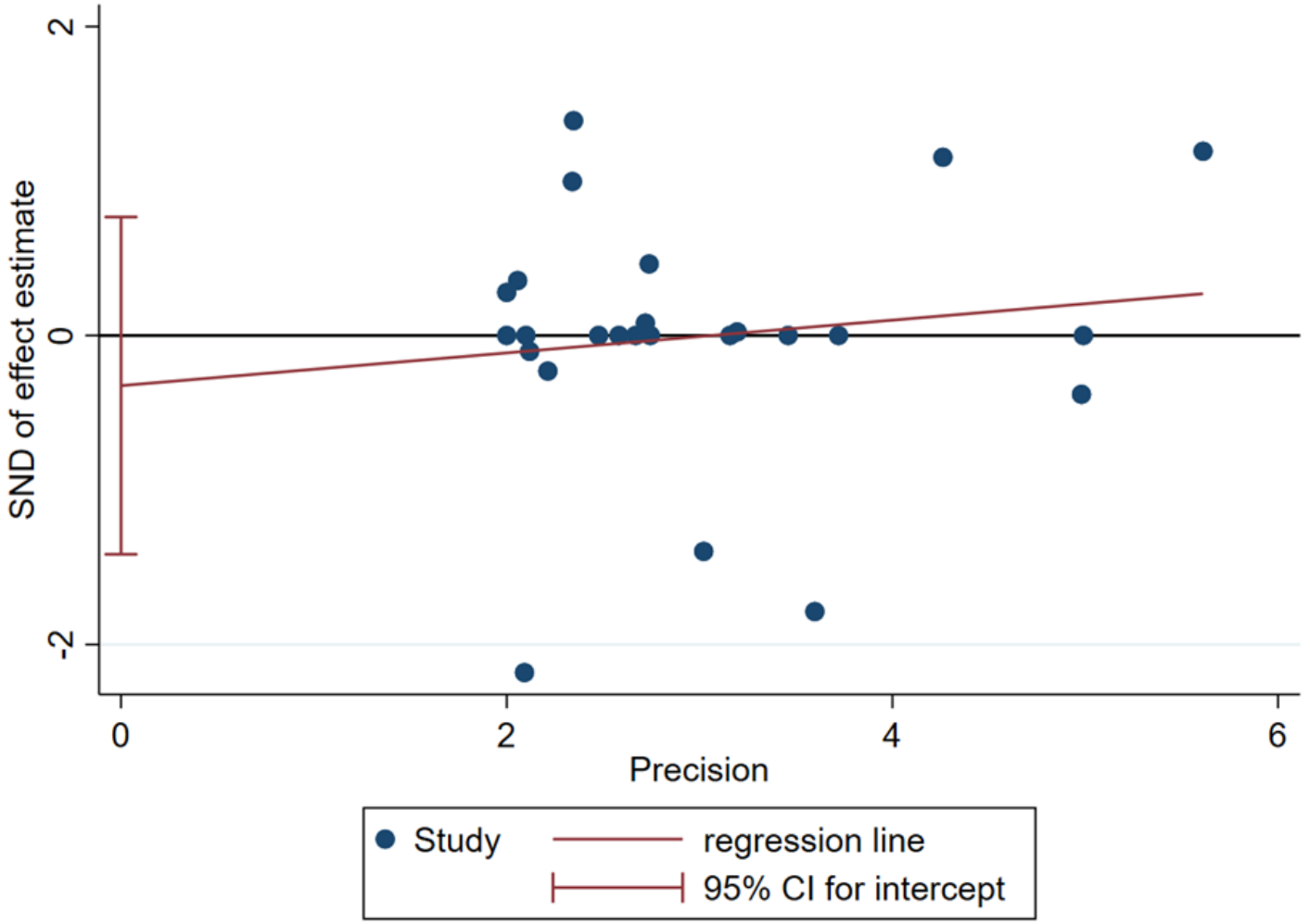
eFigure 5G Funnel plot of secondary outcome: depressive symptoms

Treatments used in eFigure 5G

A: Sham
B: hf (10Hz) rTMS at left DLPFC (F3)
C: extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)
D: extreme hf (20Hz) rTMS at left DLPFC (F3)
E: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)
F: tVNS at left auricle
G: 2 mA Anode tDCS at F3, cathode at F4
H: Theta-range rTMS at Iz (vermal part of cerebellum)
I: 1 Hz rTMS at right PFC (F4)
J: 2 mA Anode tDCS at F3, cathode at Fp2
K: iTBS at Iz (vermal part of cerebellum)
L: 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2
M: 20 Hz deep rTMS at left DLPFC (F3)
N: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)
O: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)



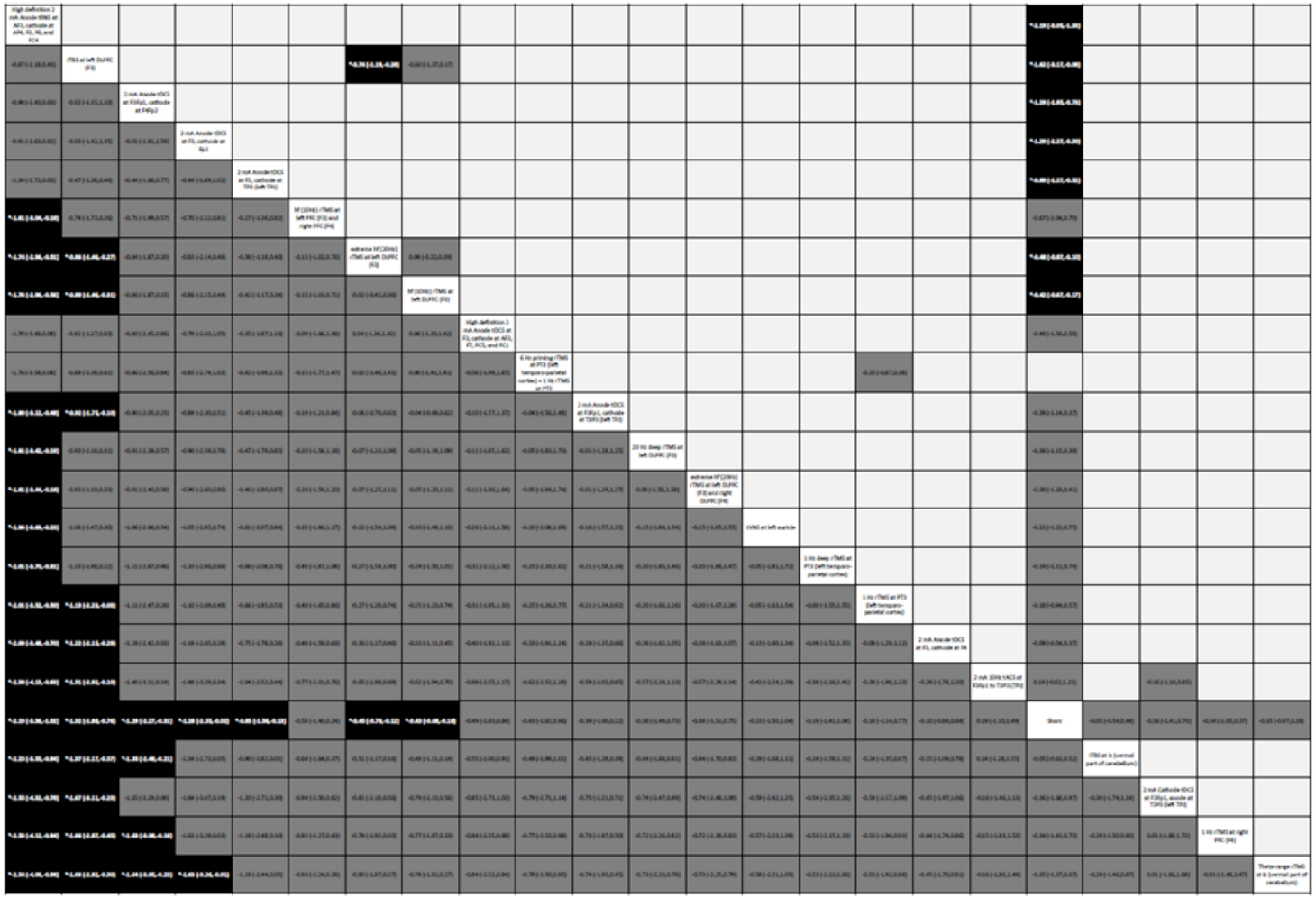
eFigure 5H Egger's regression of secondary outcome: depressive symptoms

Figure legend of eFigure 5A-5H

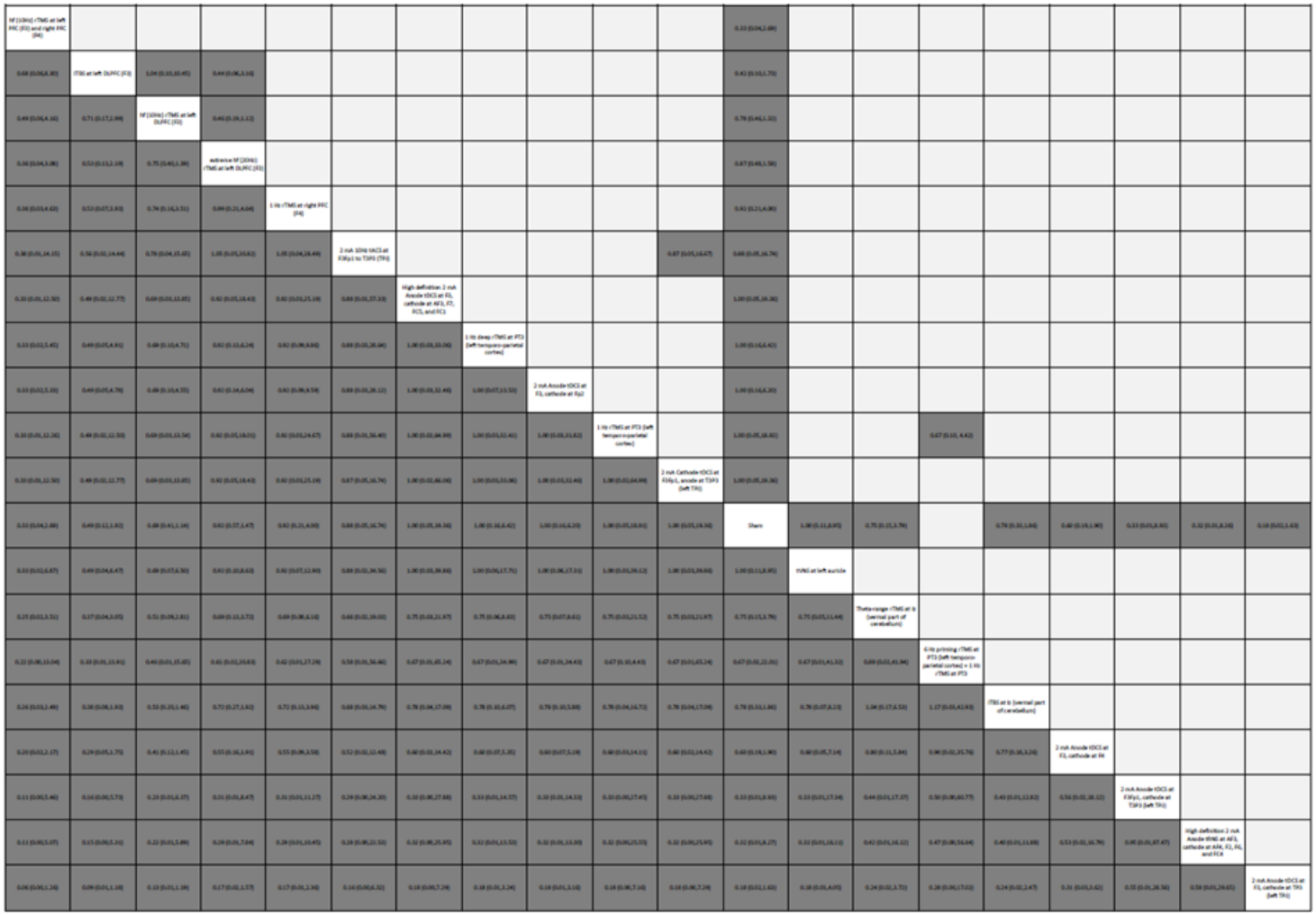
Abbreviation: 95%CI: 95% confidence interval; a-tDCS-F3 + c-tDCS-F4: 2 mA Anode tDCS at F3, cathode at F4; a-tDCS-F3 + c-tDCS-Fp2: 2 mA Anode tDCS at F3, cathode at Fp2; a-tDCS-F3 + c-tDCS-TP3: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ); a-tDCS-F3Fp1 + c-tDCS-F4Fp2: 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2; a-tDCS-F3Fp1 + c-tDCS-TP3: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ); a-tDCS-TP3 + c-tDCS-F3Fp1: 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ); DLPFC: dorsolateral prefrontal cortex; ehf-dTMS-F3: 20 Hz deep rTMS at left DLPFC (F3); ehf-rTMS-F3: extreme hf (20Hz) rTMS at left DLPFC (F3); ehf-rTMS-F3F4: extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4); hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1: High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1; hd-tRNS-AF3AF4F2F6FC4: High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4; hf-rTMS-F3: hf (10Hz) rTMS at left DLPFC (F3); hf-rTMS-F3F4: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4); iTBS: intermittent theta-burst stimulation; iTBS-F3: iTBS at left DLPFC (F3); iTBS-Iz : iTBS at Iz (vermal part of cerebellum); lf-dTMS-PT3: 1 Hz deep rTMS at PT3 (left temporo-parietal cortex); lf-rTMS-F4: 1 Hz rTMS at right PFC (F4); lf-rTMS-PT3: 1 Hz rTMS at PT3 (left temporo-parietal cortex); MRI: magnetic resonance imaging; NIBS: noninvasive brain stimulation; NMA: network meta-analysis; OR: odds ratio; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses; prTMS-PT3 + lf-rTMS-PT3: 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3; RCT: randomized controlled trial; rTMS: repetitive transcranial magnetic stimulation; SMD: standardized mean difference; SUCRA: surface under the cumulative ranking curve; tACS-F3Fp1-TP3: 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ); TBS: theta-burst stimulation; tDCS: transcranial direct current stimulation; the-rTMS-Iz : Theta-range rTMS at Iz (vermal part of cerebellum); tRNS: transcranial random noise stimulation; tVNS: transcutaneous vegal nerve stimulation; tVNS: tVNS at left auricle; vmPFC: ventromedial prefrontal cortex; VTA: ventral tegmental area

Treatment reference list

Abbreviation	Full name of treatment
Sham	Sham control
hf-rTMS-F3	hf (10Hz) rTMS at left DLPFC (F3)
ehf-rTMS-F3F4	extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4)
ehf-rTMS-F3	extreme hf (20Hz) rTMS at left DLPFC (F3)
hf-rTMS-F3F4	hf (10Hz) rTMS at left PFC (F3) and right PFC (F4)
hd-tRNS-AF3AF4F2F6FC4	High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4
a-tDCS-F3 + c-tDCS-F4	2 mA Anode tDCS at F3, cathode at F4
hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1	High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1
lf-rTMS-PT3	1 Hz rTMS at PT3 (left temporo-parietal cortex)
prTMS-PT3 + lf-rTMS-PT3	6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3
iTBS-Iz	iTBS at Iz (vermal part of cerebellum)
lf-dTMS-PT3	1 Hz deep rTMS at PT3 (left temporo-parietal cortex)
ehf-dTMS-F3	20 Hz deep rTMS at left DLPFC (F3)
a-tDCS-F3 + c-tDCS-TP3	2 mA Anode tDCS at F3, cathode at TP3 (left TPJ)
iTBS-F3	iTBS at left DLPFC (F3)
a-tDCS-F3Fp1 + c-tDCS-TP3	2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ)
a-tDCS-F3Fp1 + c-tDCS-F4Fp2	2 mA Anode tDCS at F3Fp1, cathode at F4Fp2
a-tDCS-F3 + c-tDCS-Fp2	2 mA Anode tDCS at F3, cathode at Fp2
tACS-F3Fp1-TP3	2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ)
a-tDCS-TP3 + c-tDCS-F3Fp1	2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ)
lf-rTMS-F4	1 Hz rTMS at right PFC (F4)
the-rTMS-Iz	Theta-range rTMS at Iz (vermal part of cerebellum)
tVNS	tVNS at left auricle



eFigure 6A: heatmap diagram representation of the primary outcome: improvement of negative symptoms



eFigure 6B: heatmap diagram representation of the tolerability in aspect of drop-out rate

Figure legend of eFigure 6A-6B

Abbreviation: 95%CI: 95% confidence interval; a-tDCS-F3 + c-tDCS-F4: 2 mA Anode tDCS at F3, cathode at F4; a-tDCS-F3 + c-tDCS-Fp2: 2 mA Anode tDCS at F3, cathode at Fp2; a-tDCS-F3 + c-tDCS-TP3: 2 mA Anode tDCS at F3, cathode at TP3 (left TPJ); a-tDCS-F3Fp1 + c-tDCS-F4Fp2: 2 mA Anode tDCS at F3Fp1, cathode at F4Fp2; a-tDCS-F3Fp1 + c-tDCS-TP3: 2 mA Anode tDCS at F3Fp1, cathode at T3P3 (left TPJ); a-tDCS-TP3 + c-tDCS-F3Fp1: 2 mA Cathode tDCS at F3Fp1, anode at T3P3 (left TPJ); DLPFC: dorsolateral prefrontal cortex; ehf-dTMS-F3: 20 Hz deep rTMS at left DLPFC (F3); ehf-rTMS-F3: extreme hf (20Hz) rTMS at left DLPFC (F3); ehf-rTMS-F3F4: extreme hf (20Hz) rTMS at left DLPFC (F3) and right DLPFC (F4); hd-a-tDCS-F3 + c-tDCS-AF3F7FC5FC1: High definition 2 mA Anode tDCS at F3, cathode at AF3, F7, FC5, and FC1; hd-tRNS-AF3AF4F2F6FC4: High definition 2 mA Anode tRNS at AF3, cathode at AF4, F2, F6, and FC4; hf-rTMS-F3: hf (10Hz) rTMS at left DLPFC (F3); hf-rTMS-F3F4: hf (10Hz) rTMS at left PFC (F3) and right PFC (F4); iTBS: intermittent theta-burst stimulation; iTBS-F3: iTBS at left DLPFC (F3); iTBS-Iz : iTBS at Iz (vermal part of cerebellum); lf-dTMS-PT3: 1 Hz deep rTMS at PT3 (left temporo-parietal cortex); lf-rTMS-F4: 1 Hz rTMS at right PFC (F4); lf-rTMS-PT3: 1 Hz rTMS at PT3 (left temporo-parietal cortex); MRI: magnetic resonance imaging; NIBS: noninvasive brain stimulation; NMA: network meta-analysis; OR: odds ratio; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses; prTMS-PT3 + lf-rTMS-PT3: 6 Hz priming rTMS at PT3 (left temporo-parietal cortex) + 1 Hz rTMS at PT3; RCT: randomized controlled trial; rTMS: repetitive transcranial magnetic stimulation; SMD: standardized mean difference; SUCRA: surface under the cumulative ranking curve; tACS-F3Fp1-TP3: 2 mA 10Hz tACS at F3Fp1 to T3P3 (TPJ); TBS: theta-burst stimulation; tDCS: transcranial direct current stimulation; the-rTMS-Iz : Theta-range rTMS at Iz (vermal part of cerebellum); tRNS: transcranial random noise stimulation; tVNS: transcutaneous vegal nerve stimulation; tVNS: tVNS at left auricle; vmPFC: ventromedial prefrontal cortex; VTA: ventral tegmental area