# **Supplemental Online Content**

Vita A, Barlati S, Ceraso A, et al. Effectiveness, core elements, and moderators of response of cognitive remediation for schizophrenia: a systematic review and meta-analysis of randomized clinical trials. *JAMA Psychiatry*. Published online April 20, 2021. doi:10.1001/jamapsychiatry.2021.0620

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

# eAppendix 1. Materials and Methods – Detailed section.

Search strategy and selection criteria

As an initial step, the reference list of Wykes et al. was screened against eligibility criteria. Then, a systematic literature search was conducted on three electronic databases (PubMed, Scopus, and PsycINFO; from January 2011 to October 2018, updated in February 2020) using the following strategy: ("cognitive" or "cognit\*") AND ("training" or "remediation" or "rehabilitation" or "enhancement") AND ("schizophrenia" or "psychosis") AND ("random" or "randomized control trial" or "clinical trial"). Emerging meta-analyses/reviews, and reference lists of papers fulfilling inclusion criteria were also hand-searched. Finally, keywords of the search strategy were used to conduct an additional search of Google Scholar.

All reports were assessed by at least two independent reviewers, firstly based on title and abstract, then through full-text inspection; the same reviewers independently extracted data; disagreements were resolved with the assistance of a third author. Only papers available in English and published in peer-reviewed journals were considered.

Eligibility criteria were purposely broad, in line with the aim of adopting a comprehensive approach.

Inclusion focused on RCTs comparing CR to any control condition other than CR, among patients diagnosed with schizophrenia spectrum disorders (any diagnostic criteria), independently of setting. Included studies were required to present outcomes at baseline and early post-treatment phase.

Feasibility trials were retrieved, if appropriately randomized. Pseudo- and quasi-randomized trials were excluded; in case of crossover trials, only data up to the point of crossover were used.

Eligible populations were required to include at least 70% of patients diagnosed with a schizophrenia spectrum disorder; alternatively, specific outcome data on diagnostic subgroups had to be available.

Included studies had to investigate a structured intervention fulfilling the standard Experts Workshop definition for CR (Florence, Italy, 2010), either applied as a stand-alone treatment or combined with other psychosocial interventions (if adequately controlled for), with no restrictions in terms of duration, intensity and mode of delivery. Studies evaluating selected modules of manualized CR programs (i.e. pre-specified set of exercises that can be administered independently, usually covering a specific content or cognitive domain, and meeting by themselves the CR definition) were eligible. Suitable interventions specifically targeting

metacognition were also included, since several recent CR programs tend to focus on metacognitive aspects rather than on task practice only.<sup>2</sup>

Particular attention was devoted to the definition of comparison groups, an overlooked but crucial aspect for the understanding of measured outcomes of psychosocial interventions.<sup>3</sup> Both the "absolute" effect of CR and the "relative" effect of specific intervention ingredients were of interest for the present work. Rather than simply classifying comparison conditions as "passive" or "active", they were specifically categorized into four groups: 1. Treatment as usual (TAU: drug treatment/case management only, waiting lists, insufficient details); 2. Active TAU (including multidisciplinary rehabilitative programs); 3. Active non-specific interventions (controlling for non-specific aspects and matched with CR for duration and schedule, e.g. social stimulation, leisure activities, computer activities); 4. Active evidence-based interventions<sup>4,5</sup> specifically implemented for comparison purpose. This categorization was designed to account for the heterogeneity of the concept of TAU and to separate interventions simply controlling for non-specific aspects of attending a new treatment (e.g. time spent with a therapist, computer use).

## Quality assessment

Included studies were assessed by two independent reviewers using the Clinical Trials Assessment Measure (CTAM),<sup>6</sup> a tool designed to examine trials of cognitive behavioral therapy<sup>6</sup> but already adopted to evaluate trials of CR<sup>1</sup> or other psychosocial interventions.<sup>7</sup> The CTAM total score (0-100) provides an overall display of study quality according to six domains: sample recruitment, allocation, outcome assessment, comparison groups, analysis, and treatment description. A cut-off of 65 points<sup>8</sup> was used to identify and compare adequate *versus* inadequate methodology. The most meaningful CTAM items (i.e. description of random sequence generation, use and description of blinding, handling of missing data, testing treatment fidelity) were also treated as dichotomous variables, to account for the potential extent of bias due to the different weight provided by each domain to the total score. Study authors were not contacted to confirm CTAM scoring, but quality ratings were compared with those of other review groups reported in available publications.<sup>1,9,10</sup> Studies where a significant risk of reporting bias was identified were separately noted, as

selective reporting is not represented in the CTAM, but is known to produce overestimates of intervention effects. 11,12

#### Outcome measures

Primary outcomes were changes in global cognitive performance and overall functioning from baseline to post-treatment; these outcomes were also subsequently investigated through meta-regressions, subgroup, and sensitivity analyses. Additional outcomes were changes in specific cognitive domains and in symptom severity.

For cognitive performance, data on all objective and validated cognitive tasks were extracted and classified into the seven categories derived from the NIMH-MATRICS Neurocognition Committee:<sup>13</sup> attention/vigilance, speed of processing, working memory, verbal learning and memory, visual learning and memory, reasoning and problem solving, social cognition. Since no general consensus exists regarding the attribution of specific neuropsychological tools to cognitive domains, we referred to previous publications.<sup>1,14</sup> If a clear agreement could not be reached even after collegial discussion between at least five reviewers, the scales were not used. Subjective rating scales for cognition and instruments modified by study authors or not appropriately validated in a previously published study were not extracted. The list of scales and corresponding cognitive domains is reported in Supplementary Table 1.

For each study, domain-specific effect sizes were calculated by averaging available effect sizes of the individual measures referring to that specific domain; then, a composite global cognition effect size was calculated by averaging the available domain-specific effect sizes. The aggregation of effect sizes within each study before meta-analyzing the results over studies represents an often-employed approach to the problem of dependent effect sizes. Wykes et al. also adopted this strategy and demonstrated that combining measures did not influence the estimate of global effects; since covariance tends to increase the composite effect size and to underestimate standard error, this method can be viewed as conservative.

For functioning outcomes, all available and validated measures were extracted for each study. Self-, caregiver- and investigator-rated instruments were all eligible, independently from the area of functioning (e.g. daily life, education, work, interpersonal relationships). Both direct and indirect measures of functioning, such as functional capacity, and living and social skills, were included to obtain a comprehensive picture. Accordingly, quality of life measures were also included.<sup>17</sup>

When studies used multiple rating instruments for symptoms, only one scale per study was chosen, prioritizing the Positive And Negative Syndrome Scale (PANSS),<sup>18</sup> or, if not available, the Brief Psychiatric Rating Scale,<sup>19</sup> following the procedures suggested by the Cochrane Collaboration<sup>20</sup> and adopted in previous high-quality meta-analyses.<sup>21</sup> If multiple rating instruments were applied but neither of these scales was included, the most representative tool was identified based on the hypothesized frequency of use. Positive and negative symptoms were analyzed separately; an effect size for global symptoms was derived only if full-scale total scores were available.

For studies with multiple treatment arms, each comparison of interest was considered separately, if based on appropriate allocation procedure. As including multiple effect sizes per study (dependent effect sizes) could produce biased statistical inferences, this issue was addressed in sensitivity analyses restricted to one effect size per study, both randomly and choosing the most substantial comparison.<sup>22,23</sup>

# Effect-size calculation

For each outcome measure, Cohen's d was calculated according to the formula by Carlson & Schmidt,<sup>24</sup> which allows to control for baseline values and heterogeneity of variance.<sup>25</sup> The standard errors of the effect sizes were calculated using the formula recommended by Cooper et al.<sup>16</sup> If the raw group means, Z-scores and standard deviations were not available, they were extracted using WebPlotDigitizer version 4.2 (Rohatgi, San Francisco, CA, USA, 2019) or group x time interaction F values or t values were used.<sup>26</sup> Where standard deviations were missing, they were calculated from available data (standard error or p values for betweengroup differences).<sup>20</sup> Scores of each scale were adapted so that a higher score reflected a better performance;

in this way a positive Cohen's d value was indicative of a positive treatment effect. Missing data were treated using an available-case approach; data resulting from intention-to-treat were preferred when reported.

# Meta-analytic procedure

All meta-analyses used a random effects approach. Statistical heterogeneity was investigated through visual inspection of forest plots and assessment of  $\chi^2$ -tests and  $I^2$  statistic. Potential reasons for heterogeneity were then explored through subgroup analyses for categorical variables and restricted-maximum-likelihood-random-effect meta-regressions for continuous variables. All the meta-analyses were performed using Review Manager, version 5.3 (The Cochrane Collaboration, Copenhagen, DK, 2014), except for the meta-regressions, conducted using Comprehensive Meta-Analysis version 3.0 (Biostat, Englewood, NJ, USA, 2013). Descriptive statistics and analyses were performed using SPSS version 14.0 (SPSS Inc., Chicago, IL, USA, 2005).

## Moderator effects

Potential moderators were investigated for primary outcomes. Firstly, study-related moderators were investigated: publication year, overall methodological quality (based on total CTAM score and on the 65-points cut-off), blinding of study condition/outcome assessment, use of intention-to-treat, comparison category, inclusion of diagnoses other than schizophrenia. Then, characteristics of included treatments were explored, primarily the four core elements of CR identified in the most recent expert consensus<sup>27</sup>, along with individual or group format of delivery, computer use, treatment duration (weeks) and intensity (sessions/week and hours/week). Finally, patient- and illness-related moderators were investigated: age, gender (% female subjects), years of education, premorbid IQ, age of onset, duration of illness, baseline treatment dose (chlorpromazine equivalents - CPZeq) and baseline symptom severity. For medication, when CPZeq was not explicitly reported, the daily dose was derived from available data.<sup>28</sup> Baseline symptom severity was expressed as total PANSS score; eventual Brief Psychiatric Rating Scale scores were converted to PANSS.<sup>29</sup> Interconnections between moderators emerging as significant were explored through inferential statistics to check for potential collinearity.

# Certainty of the evidence

Confidence in pooled results for primary outcomes was further evaluated through sensitivity analyses: use of a fixed effect model, exclusion of clear outliers, inclusion of only one ES per study, exclusion of studies with inadequate methodology (according to CTAM) or insufficient details on allocation, providing only completers data, evaluating interventions designed for trial purpose, not testing intervention quality/fidelity to manual. Publication bias was assessed by visual inspection of funnel plots and statistical test of asymmetry (Egger's test).<sup>30</sup> In case of significant asymmetry, adjustment of effect estimates was investigated with the trim-and-fill method using both a random-random and a fixed-random effects model.<sup>31,32</sup> Finally, other potential determinants of quality of evidence (i.e. consistency, precision and directness) were explored, according to experts' recommendation.<sup>33</sup>

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## eTable 1. List of rating scales and corresponding cognitive domains.

# Attention/Vigilance

Continuous Performance Tests (CPT) Sustained Attention Test (SAT) Test of Sustained and Selective Attention (TASS) Tests for Attentional Performance (TAP) Vigilance Attention Stress Test Scanning Test Digit Vigilance Test Go/No-go Triads Test Span of Apprehension tests Letter Cancellation Test Embedded Stimulus tests Backward Masking Test (BMT) **COGLAB Preattentional** Processing

#### **Speed of Processing** Reaction Time tests

WMS Information

Tests for Attentional Performance (TAP) Alertness Trail Making Test, Part A (TMT-Stroop Test, Color and Word conditions WAIS Digit Symbol Digit Symbol Substitution Test Symbol Digit Modalities Test (SDMT) **BACS Symbol Coding** BACS Token Motor Finger Tapping Test (FTT) Tactile Performance Verbal Fluency tests (Category and Letter) D-KEFS Symbol Search **D-KEFS Color Naming** 

#### **Verbal Learning and Memory**

Hopkins Verbal Learning Test (HVLT) Rey Auditory Verbal Learning Test (RAVLT) California Verbal Learning Test (CVLT) WMS Logical Memory WMS Memory Passages WMS Verbal Paired Associates **BACS Verbal Memory** LPAD Word Memory NCSE Memory Hong Kong List Learning Test (HKLLT) Other Word List recall tests Free and Cued Selective Reminding Test (FCSRT) Prose Recall tests Denman Neuropsychological Memory Test Rivermead Behavioral Memory Test (RBMT)

## Visual Learning and Memory

Brief Visuospatial Memory Test (BVMT) Benton Visual Retention Test (BVRT) Rey Osterrieth Complex Figure Rey Visual Design Learning Test (RVDLT) LPAD Complex Figure WMS Visual Reproduction WMS Memory for Faces Face Memory Test (FMT) Kimura Recurring Figures Test Denman Neuropsychological Memory Test Rivermead Behavioral Memory Test (RBMT)

Social Cognition Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) Bell Lysaker Emotion Recognition Task (BLERT) Facial Emotion Identification Test (FEIT) Face Emotion Discrimination Task (FEDT) Facial Emotion Recognition Task (TREF) Penn Emotion Recognition Test (ER-40) Ekman 60 Faces Test Vienna Emotion Recognition Test (VERT-K) Geneva Emotion Recognition Test (GERT) Pictures of Facial Affect (PFA) Emotion Recognition Questionnaire (EMOREC) Emotion in Biological Motion (EmoBio) fMRI Emotion Recognition tasks The Awareness of Social Inference Task (TASIT) Reading the Mind in the Eyes Test (RMET) Reading Mind in the Voices (RMV) Hinting Task Happè Stories Movie for the Assessment of Social Cognition (MASC) Social Behavior Sequencing Task (SBST) Social Cognition Screening Questionnaire – Theory of Mind Profile of Non-Verbal Sensitivity (PONS) Schema Component Sequencing Task (SCST) Situational Feature Recognition

Test (SFRT) Script Test Mach IV Scale Relationships Across Domains (RAD) Faux Pas Detection Test Davos Assessment of Cognitive Biases (DACOBS) - Social Cognition Problems Self-Report Cognitive Biases (CBQp) Emotion Based Reasoning Ambiguous Intentions Hostility Questionnaire (AIHQ) Internal Personal and Situational Attribution Questionnaire (IPSAQ)

Attributional Style Questionnaire (ASQ) Self-Report Cognitive Biases (CBQp) – Intentionalizing **Empathic Accuracy Test** Unexpected Outcome Test (UOT)

Questionnaire of Cognitive and Affective Empathy

## Social Functioning

UCSD Performance-Based Skills Assessment (UPSA) Independent Living Scales, Problem Solving Factor (ILS-PS) Medication Management Ability Assessment Micro-Module Learning Test (MMLT) Social Skills Performance Assessment (SSPA) Independent Living Skills Survey (ILSS) Life Skills Profile (LSP) Maryland Assessment of Social Competence Work Behavior Inventory (WBI) Assessment of Interpersonal Problem Solving Skills (AIPSS) UCLA Module Specific Skills Assessment Global Assessment of Functioning (GAF; GAF-f) Global Assessment Scale (GAS) Children Global Assessment Scale (C-GAS) Social Functioning Scale (SFS) Personal and Social Performance (PSP) Specific Levels of Functioning (SLOF) Role Functioning Scale (RFS) WHO Disability Assessment Scale (WHO-DAS) Interview for the Assessment of Disability (AD) Social and Occupational Functioning Assessment Scale (SOFAS) Health of the Nation Outcome Scale (HoNOS) Employability Appraisal Scale (EAS) Life Assessment Scale for the Mentally Ill (LASMI) Social Adjustment Scale (SAS) Social Behavior Scale (SBS) Major Role Adjustment Inventory (MRAI) VADO Personal and Social Functioning Scale Vineland Adaptive Behavior Scale (VABS) Performance Potential Inventory (PPI) Time use survey Nurses Observation Scale for Inpatient Evaluation (NOSIE) Scale of Social Skills of chronic schizophrenia inpatients (SSSI) Occupational Self-Assessment (OSA) Behavior Rating Inventory of Executive Functions (BRIEF-A) Informant- report and Self-report Heinrichs Carpenter Quality of Life Scale (QLS) WHO Quality of Life (WHOOOL; WHOOOL-BREF) **EUROHIS** Quality of Life (EUROHIS-QOL) Self-Report Quality of Life in

schizophrenia (SQol)

			Personal Well-Being Index (PWI)
			Quality of Life Interview (QoLI)
			Quality of Life Scale (QOLS)
Working Memory	Reasoning and Problem Solving	Cognitive measures of	Symptoms
WAIS, WISC or WMS Digit	Wisconsin Card Sorting Test	multiple domains (included	Positive and Negative Syndrome
Span	(WCST) or COGLAB Card	when available)	Scale (PANSS) Global score
Digit Span Distractibility Test	Sorting Test - Categories achieved	Global Cognition composite	Brief Psychiatric Rating Scale
BACS Digit Sequencing	and Perseverative Errors	scores	(BPRS) Global score
Other Digit Span tasks	Delis Kaplan Executive Function	Mini Mental State Examination	
WAIS or WMS Letter-Number	System (D-KEFS) (all problem	(MMSE)	Positive Symptoms
Sequencing	solving, planning, abstract		PANSS Positive Scale or Factor
Auditory Number Sequencing	reasoning, switching and response	Cognitive measures lacking	Score
(ANS)	inhibition subtests)	consensus (excluded)	BPRS Positive Symptoms factors
Maintenance and Manipulation	BACS Tower of London	Cognitive Style tests	Scale for the Assessment of
Task	Tower of Hanoi	Hayling Sentence Completion	Positive Symptoms (SAPS)
WAIS Arithmetic	WAIS or WISC Picture	Task	Psychotic Symptom Rating Scale
Other arithmetic tasks	Arrangement/Block Design	WMS Orientation	(PSYRATS)
WMS Mental Control	WAIS Matrix Reasoning	Purdue Pegboard	Inkblot test
Trail Making Test, Part B (TMT-	NCSE Construction	Auditory Frequency	
B)	Mazes test	Discrimination Test	Negative Symptoms
Self Ordered Pointing Task	Trail Making Test, Part B-A (TMT	Subjective rating scales to assess	PANSS Negative Scale or Factor
(SOPT)	B-A)	cognition	BPRS Negative Symptoms
Visual Conditional Associative	Stroop Test, Interference condition	Emotion Processing tests:	factors
Learning (VCALT)	Response Inhibition Test	Reaction time, Confidence in	Scale for the Assessment of
Sentence Span tests	Penn Conditional Exclusion Test	responses Other measures of "confidence	Negative Symptoms (SANS)
N-back	Strategic Target Detection Test (STDT)	in decision"	
Auditory Consonant Trigrams (ACT)	WAIS Similarities	in decision	
WMS Visual/Spatial Span	NCSE Reasoning		
Dual Span	Booklet Category Test	Cognitive measures not	
CANTAB Spatial Working	Six Elements Test	considered sensitive to change	
Memory	Labyrinth Test	(excluded)	
Test for Attentional Performance	Proverb Interpretation tasks	WAIS Comprehension	
(TAP) Working Memory	Behavioral Assessment of the	WAIS Comprehension WAIS Vocabulary	
(1121) Working Women's	Dysexecutive Syndrome (BADS)		
	Ecological Shopping Test		
	5 11 5		

BACS: Brief Assessment of Cognition in Schizophrenia; CANTAB: Cambridge Neuropsychological Test Automated Battery; fMRI: Functional Magnetic Resonance Imaging; LPAD: Learning Potential Assessment Device; NCSE: Neurobehavioral Cognitive Status Examination; WAIS: Wechsler Adult Intelligence Scale; WISC: Wechsler Intelligence Scale for Children; WMS: Wechsler Memory Scale.

# eAppendix 2.

#### References of included studies

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eTable 2. Cognitive remediation programs adopted in included studies.

Categories of CR programs	Single CR programs applied in studies
Computer-based neurocognitive interventions (CACR)	BrainHQ software: Thomas 2018
	Captain's Log software: Burda 1994, Bellucci 2003, Au 2015
	CineMotion: Sevos 2018
	Computerized Interactive Remediation of Cognition-Training for
	Schizophrenia (CIRCuiTS): Drake 2014, Reeder 2017
	Cogpack: McGurk 2005, Sartory 2005, Wölwer 2005 (Cogpack arm),
	Lindenmayer 2008 (+group discussion), Klingberg 2011, Vita 2011 (CACR arm), Kidd 2014 (+group discussion), Jahshan 2019 (Cogpack arm)
	Cog-trainer software: Lee 2013
	Computer Drill Training: Byrne 2013 FesKits program: Gomar 2015
	Japanese Cognitive Rehabilitation Program for Schizophrenia (JCORES): Morimoto 2018
	MyBrainGymmer software: Cassetta 2019
	MyBrainTraining software: Moritz 2015 (home-based)
	NEUROCOM program: Østergaard Christensen 2014
	NPT-MH software: Fernandez-Gonzalo 2015
	PositScience software, Auditory: Fisher 2009-2016, Fisher 2015; Aristotle:
	Horan 2011 (NR arm); <b>Brain Fitness:</b> Kukla 2018, Jahshan 2019 (PositScience
	arm); multiple tasks: Rass 2012, Mahncke 2019 (including novel exercises)
	PSSCogrehab software: D'Souza 2013, Tan 2013, Fiszdon 2016, Choi 2017
	RehaCom software: D'Amato 2011, Royer 2012, Mak 2013, Garcia-Fernande 2019
	Unspecified/Other programs used in single studies: Kurtz 2007, Dickinson
TD 11 12 12 12 12 12 12 12 12 12 12 12 12	2010, Man 2012 (CAEL arm), Garrido 2013, Kurtz 2015, Fan 2017, Tan 2019
Pencil-and-paper neurocognitive interventions	Compensatory Cognitive Training (CCT): Twamley 2008-2012, Mendella
	2015
	Cognitive Remediation Therapy (CRT): Wykes 1999, Wykes 2007a, Wykes
	2007b, Lu 2012, Puig 2014, Tan 2016, Pijnenborg 2019 (adapted from CRT)
	Frontal/Executive Program: Penades 2006, Penades 2013, Omiya 2016,
	Penades 2018
	Other programs used in single studies: Gharaeipour 2012 (own program),
	Hegde 2012 (own program, home-based), Man 2012 (TAEL arm), Tao 2015
Interventions targeting single neurocognitive domains	Attention training: Hermanutz 1991, Medalia 1998 (ORM software)
	Attention Processing Training and Shaping: Silverstein 2005, Silverstein
	2009
	Cognitive Attention and Memory Training: Pontes 2013
	Memory training: Medalia 2000 (1st arm)
	<u>Problem Solving Training (Where in the USA is Carmen Sandiego?</u>
	software): Medalia 2000 (2nd arm)
	Working Memory Training: Donohoe 2018 (low-support), Ramsay 2017
	Auditory Discrimination+Working Memory training: Popova 2014 (CE
	arm)
Interventions targeting Social Cognition	eMotional Training: Maroño Souto 2018, Lado-Codesido 2019 (Voices)
	Facial Affect recognition Training: Popova 2014 (FAT arm)
	Social Cognition Enhancement Training (SCET): Choi 2006
	Social Cognitive Interaction Training (SCIT): Roberts 2014, Gordon 2018,
	Kanie 2019, Tas 2012 (family version)
	Social Cognitive Skills Training (SCST): Horan 2009, Horan 2011 (SCST
	arm), Gohar 2013, Horan 2018
	Social Perception Training: Matsui 2009
	Training of Affect Recognition (TAR): Wölwer 2005 (TAR arm), Habel 2010
	Sachs 2012, Vaskinn 2019
Interventions based on an integrative approach	Cognitive Enhancement Therapy (CET): Hogarty 2004, Eack 2009
e rr	Instrumental Enrichment Program: Hadas-Lidor 2001, Roncone 2004
	Integrated Neurocognitive Therapy (INT): Müller 2015, Müller 2017
	Integrated Psychological Therapy (IPT): Hermanutz 1991 (IPT arm, selected
	subprograms), Spaulding 1999, Garcia 2003 (cognitive subprograms), Zimmer
	2007 (cognitive subprograms), Vita 2011a (IPT arm, cognitive subprograms),
	Vita 2011b (cognitive subprograms), Rakitzi 2016 (cognitive subprograms),
	Aloi 2018, Ueland 2004 (own program based on IPT)
	Neuropsychological and Educational Approach to Remediation (NEAR):
	Hodge 2010, Katsumi 2019
	Neurocognitive Enhancement Therapy (NET): Bell 2001, Greig 2007
	Cognitive Rehabilitation Program in Psychosis (REHACOP): Oieda 2012
	Cognitive Rehabilitation Program in Psychosis (REHACOP): Ojeda 2012, Peña 2016, Sanchez 2014 (integrated version)
	Peña 2016, Sanchez 2014 (integrated version)
	Peña 2016, Sanchez 2014 (integrated version)  Problem Solving and Cognitive Flexibility (REPYFLEC): Farreny 2012
	Peña 2016, Sanchez 2014 (integrated version)  Problem Solving and Cognitive Flexibility (REPYFLEC): Farreny 2012  Social Skills and Neurocognitive Individualized Training (SSANIT):
	Peña 2016, Sanchez 2014 (integrated version)  Problem Solving and Cognitive Flexibility (REPYFLEC): Farreny 2012  Social Skills and Neurocognitive Individualized Training (SSANIT):  Galderisi 2010
	Peña 2016, Sanchez 2014 (integrated version)  Problem Solving and Cognitive Flexibility (REPYFLEC): Farreny 2012  Social Skills and Neurocognitive Individualized Training (SSANIT):  Galderisi 2010  Thinking Skills for Work: Bowie 2012, McGurk 2016, Iwata 2017
Metacognitive Training (MCT)	Peña 2016, Sanchez 2014 (integrated version)  Problem Solving and Cognitive Flexibility (REPYFLEC): Farreny 2012  Social Skills and Neurocognitive Individualized Training (SSANIT):  Galderisi 2010

Combination of multiple interventions	CACR+SCIT+NEAR: Vidarsdottir 2019
Combination of multiple interventions	
	Cogpack+Cognitive Adaptation Training (CAT): Vauth 2005
	JCORES+group sessions focused on metacognition: Matsuda 2016
	NET+NEAR: Ventura 2019
	PositScience software+NEAR bridging group: Keefe 2012, Ahmed 2015,
	Kantrowitz 2016
	PositScience software+computer-based Social cognition training: Hooker
	2012
	PositScience software+SCST: Horan 2011 (Hybrid arm)
Other interventions	Self-instructional Training: Meichenbaum 1973

eTable 3. Summary of individual characteristics of included studies.

Study	Country, Design and Setting	Characteristi cs of included patients	Sample and Attritio n	Duratio n (weeks)	Treatment Program and Schedule	Comparison	Quality Rating (CTA M)	Outcome Measures (included in the analyses)
Aghotor 2010	Germany, single center Inpatients Chronic, with active positive symptoms	Gender: 33,3% female Age: 30,6 years Illness duration: 11,6 years Onset: 19,1 years Education: n.i. IQ: n.i. Diagnosis: non-affective psychosis Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=30, 13% attrition rate	4	Metacognitive Training (MCT), 2 sessions/week of 45-60min each, N=16	Newspaper reading groups, N=14	62	Positive Symptoms
Ahmed 2015	USA, single center Inpatients in forensic setting	Gender: 13% female Age: 40,5 years Illness duration: 18,6 years Onset: 21,9 years Education: 9,8 years IQ: 94,2 Diagnosis: schizophrenia (69%), schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): 705,4 mg/day	N=78, 19% attrition rate	20	Computer- assisted remediation (mainly Posit Science tasks) + Bridging group discussions, 3 sessions/week of 1h each, with regular psychosocial rehabilitation, N=42	Computer games + Healthy behavior group discussions, with regular psychosocial rehabilitation, N=36	79	Global Cognition All cognitive domains Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Ahuir 2018	Spain, multi-center, crossover trial  Outpatients  Recent onset (<3 years)	Gender: 59,2% female Age: 23,6 years Illness duration, onset and education: n.i. IQ: n.i. Diagnosis: first episode of psychosis Baseline PANSS: 50,3 Daily drug dose (CPZeq): n.i.	N=49, 26,5% attrition rate	8	Metacognitive Training (MCT), 1h/week, N=22	Psychoeducatio n, N=29	39	Global Cognition Social Cognition Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Aloi 2018	Italy, single center Inpatients	Gender: 29% female Age: 51,1 years Illness duration: 23,1 years Onset: 27,9 years Education: n.i. IQ: n.i.	N=46, 11% attrition rate	36	Integrated Psychological Therapy (IPT), 2 sessions/week of 45min each, N=24	Treatment as usual, N=22	55	Global Cognition Processing Speed Working Memory Executive Functions Social Cognition Global Functioning Global Symptoms

		Diagnosis: schizophrenia Baseline PANSS: 91,6 Daily drug dose (CPZeq): 652,8 mg/day						Positive Symptoms Negative Symptoms
Au 2015	Hong Kong, single center Outpatients	Gender: 36,7% female Age: 36,1 years Illness duration: 11,2 years Onset: 24,9 years Education: 14,9 years IQ: n.i. Diagnosis: schizophrenia (58%), schizoaffectiv e disorder Baseline PANSS: 41,9 Daily drug dose (CPZeq): n.i.	N=90, 10% attrition rate	12	Computer- assisted remediation, 3 sessions/week of 2h each + Integrated Supported Employment, N=45	Time-matched TV watching + Integrated Supported Employment, N=45	73	Global Cognition Attention/Vigilan ce Processing Speed Verbal Memory Visual Memory Executive Functions Social Cognition Global Functioning Global Symptoms
Bell 2001	USA, multi-center Outpatients	Gender: 26,2% female Age: 41,3 years Illness duration: 19,3 years Onset: 22 years Education: 13,3 years IQ: 87,6 Diagnosis: schizophrenia (69%), schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): 743,5 mg/day	N=65, dropout s n.i.	22	Neurocognitive Enhancement Therapy (NET), 3-4 sessions/week, + Work therapy N=31	Work therapy, N=34	60	Global Cognition Processing Speed Working Memory Executive Functions Social Cognition
Bellucci 2003	USA, single center Outpatients	Gender: 52,9% female Age: 42 years Illness duration: 16,6 years Onset: 25,4 years Education: 12,6 years IQ: n.i. Diagnosis: schizophrenia (47%), schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=34, no dropout s	8	Computer- assisted remediation using Captain's Log, 2 sessions/week of 90 min each, N=17	Multidisciplinar y treatment as usual including skills training and psychoeducatio n, Waiting list, N=17	65	Global Cognition Processing Speed Working Memory Verbal Memory Negative Symptoms
Bowie 2012	USA, multi-center	Gender: n.i. Age: 40,6 years	N=114, 27% attrition	12	Thinking Skills for Work, 2h/week, N=38	Functional Adaptation Skills Training,	75	Global Cognition Global Functioning
	Outpatients		rate			N=38		

		Illness duration: 20,2 years Onset: 20,4 years Education: 13,1 years IQ: n.i. Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.			Thinking Skills for Work + Functional Adaptation Skills Training, N=38			Positive Symptoms Negative Symptoms
Briki 2014	France, multi-center  In- and outpatients  Chronic, with active positive symptoms	Gender: 34% female Age: 41,1 years Illness duration: 16,2 years Onset: 24,9 years Education: 8,8 years IQ: n.i. Diagnosis: schizophrenia spectrum disorder Baseline PANSS: 86,6 Daily drug dose (CPZeq): 1437,5 mg/day	N=68, 26,5% attrition rate	8	Metacognitive training (MCT), 2 sessions/week of 45.60min each, N=35	Supportive therapy including psychoeducation elements, N=33	71	Global Functioning Positive Symptoms
Bryce 2018	Australia, single center In- and outpatients	Gender: 30% female Age: 41 years Illness duration: 14,1 years Onset: 26,9 years Education: 13,1 years IQ: 98,1 Diagnosis: schizophrenia (71%), schizoaffectiv e disorder Baseline PANSS: 61,1 Daily drug dose (CPZeq): 703,8 mg/day	N=56, 23% attrition rate	10	Computer- assisted remediation using Cogpack, 2 sessions/week of 1h each, N=29	Computer games, N=27	72	Global Cognition All cognitive domains Global Functioning Global Symptoms
Burda 1994	USA, multi-center Inpatients	Gender: 2,8% female Age: 46,6 years Illness duration and onset: n.i. Education: 12,5 years IQ: n.i. Diagnosis: schizophrenia (68%), schizoaffectiv e disorder	N=80, 14% attrition rate	8	Computer- assisted remediation using Captain's Log, 3 sessions/week of 30min each, N=40	Treatment as usual, N=40	54	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Verbal Memory Visual Memory

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		Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.						
Byme 2013	China, single center Inpatients	Gender: 100% male Age: 45,6 years Illness duration: 20,6 years Onset: 25 years Education: 11,3 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): 390,2 mg/day	N=51, 39% attrition rate	6	Own computer- assisted program, schedule not described in detail, N=27	Treatment as usual, N=24	48	Global Cognition Working Memory Verbal Memory Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Cassetta 2019	Canada, multi-center Outpatients	Gender: 39,4% female Age: 40,2 years Illness duration: 13,7 years Onset: 26,6 years Education: 13,3 years IQ: n.i. Diagnosis: schizophrenia (61%), schizoaffectiv e disorder Baseline PANSS: 79,4 Daily drug dose (CPZeq): n.i.	N=83, 14% attrition rate	10	Computer- assisted Working Memory training, N=28, or Processing Speed training, N=28, both using MyBrainGymmer , 5 sessions/week of 30min each	Treatment as usual, N=27	82	Global Cognition Processing Speed Working Memory Executive Functions Social Cognition Global Functioning Global Symptoms
Cavallaro 2009	Italy, multi-center Inpatients	Gender: n.i. Age: 33,6 years Illness duration: 8,2 years Onset: 25,1 years Education: 11,7 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=100, 14% attrition rate	12	Computer- assisted remediation using Cogpack, 3 sessions/week of 1h each, + Rehabilitation program, N=58	Computer activities + Rehabilitation program, N=42	51	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning
Choi 2006	South Korea, single center Outpatients	Gender: 44% female Age: 32,5 years Illness duration: 11,2 years Onset: 21,3 years Education: 12,4 years IQ: n.i.	N=34, 47% attrition rate	26	Social Cognition Enhancement Training (SCET), 2 sessions/week, N=17	Usual psychiatric rehabilitation program including social skills training, N=17	35	Global Cognition Executive Functions Social Cognition

		Diagnosis: schizophrenia (97%), schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.						
Choi 2017	South Korea, single center Inpatients	Gender: 42% female Age: 49,7 years Illness duration: 23 years Onset: 26,8 years Education: 11,2 years IQ: 95,9 Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=38, 3% attrition rate	12	Computer- assisted remediation using PSS CogRehab, 2 sessions/week of Ih each + Comprehensive psychiatric rehabilitation, N=19	Comprehensive psychiatric rehabilitation including skill building therapies, N=19	66	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions Global Symptoms Positive Symptoms Negative Symptoms
D'Amato 2011	France, multi-center Inpatients	Gender: 24,7% female Age: 32,8 years Illness duration and onset: n.i. Education: 12,3 years IQ: 100,3 Diagnosis: schizophrenia Baseline PANSS: 74,4 Daily drug dose (CPZeq): 388,3 mg/day	N=77, no dropout s	7	Computer- assisted remediation using Rehacom, 2 sessions/week of 2h each, N=39	Treatment as usual, waiting list N=38	72	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
D'Souza 2013	USA, multi-center Outpatients	Gender: 25% female Age: 37,2 years Illness duration: 10,7 years Onset: 26,5 years Education: 12,7 years IQ: 91,2 Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: 56,9 Daily drug dose (CPZeq): 272,5 mg/day	N=53, 15% attrition rate	12	Computer- assisted remediation using PSS CogRehab, 5h/week, N=27 *Only the arm receiving placebo serine was included in the analysis	TV watching, N=26  *Only the arm receiving placebo serine was included in the analysis	62	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Dickinson 2010	USA, multi-center Outpatients	Gender: 35% female Age: 47,6 years Illness duration and onset: n.i.	N=69, 9% attrition rate	15	Computer- assisted remediation, 3sessions/week of 1h each, N=35	Computer games, N=32	82	Global Cognition Processing Speed Working Memory Executive Functions Global Functioning

		Education: 12,5 years						Global Symptoms
		IQ: n.i. Diagnosis: schizophrenia (78%), schizoaffectiv						Negative Symptoms
		e disorder Baseline PANSS: 66,5 Daily drug						
		dose (CPZeq): n.i.						
Donohoe 2018	Ireland, multi-center Outpatients	Gender: 60% female Age: 43,3 years Illness duration: 17,1	N=90, 39% attrition rate	8	Computer- assisted low- support working memory training, 5 sessions/week of 30-40 min each + 45 min/week	Sham intervention, N=42	79	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions
		years Onset: 26,2 years Education: 14 years IQ: n.i. Diagnosis: psychotic disorder (63%			with therapist, N=48			Social Cognition Global Functioning
		schizophrenia; affective psychosis included) Baseline PANSS: n.i. Daily drug dose (CPZeq): 490,4 mg/day						
Drake 2014	Great Britain, multi-center	Gender: 39,3% female Age: 24,1	N=62, 3% attrition	12	Computer- assisted remediation using	Time-matched social contact, followed by	83	Global Cognition Visual Memory Executive
	Outpatients First-episode	years Illness duration and onset: n.i.	rate		CIRCuiTS, 3-5 sessions/week of 1h each (40h total), followed	CBTp, N=31		Functions Global Functioning Global
	riisi-episode	Education: 12,7 years IQ: 104,4 Diagnosis: schizophrenia (85%), schizoaffectiv e disorder Baseline PANSS: 70,4 Daily drug dose (CPZeq):			by CBTp, N=31			Symptoms Positive Symptoms
Eack 2009	USA, single center	n.i. Gender: 31% female	N=58, dropout	104	Cognitive Enhancement	Enriched supportive	56	Global Cognition Processing Speed
	Outpatients	Age: 28,9 years	s n.i.		Therapy (CET), 1h/week of	therapy (including skills		Working Memory
	Recent onset (<5 years)	Illness duration: 3,2 years Onset: 22,7 years Education: n.i. IQ: 98,1 Diagnosis: schizophrenia			neurocognitive training + 1,5h/week of social-cognitive training, + Enriched supportive therapy, N=31	training and psychoeducatio n), N=27		Verbal Memory Executive Functions Social Cognition Global Functioning Global Symptoms Positive
		(66%), schizoaffectiv e disorder Baseline PANSS: n.i.						Symptoms Negative Symptoms

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		Daily drug						
		dose (CPZeq): 418,2 mg/day						
Fan 2017	China, single center	Gender: 48% female Age: 40,5	N=23, no dropout	8	Computer- assisted remediation, 40	Treatment as usual, N=11	61	Global Cognition Processing Speed Working
	Inpatients	years Illness duration: 17,4 years Onset: 23,4 years Education: 11,7 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 64,1 Daily drug dose (CPZeq): 490,8 mg/day	s		sessions total of 40min each, N=12			Memory Executive Functions Global Symptoms Positive Symptoms Negative Symptoms
Farreny 2012	Spain, single center Outpatients	Gender: 32% female Age: 40,6 years Illness duration: 17,5 years Onset: 23,1 years Education: n.i. IQ: n.i. Diagnosis: schizophrenia (89%), schizoaffectiv e disorder Baseline PANSS: 65 Daily drug dose (CPZeq): 475 mg/day	N=62, 14,5% attrition rate	17	Problem solving and Cognitive flexibility Training (REPYFLEC), 2 sessions/week of 1h each, N=34	Leisure activities, N=28	76	Global Cognition Working Memory Verbal Memory Executive Functions Global Functioning Global Symptoms Negative Symptoms
Favrod 2014	Switzerland, multi-center Outpatients Chronic, with active positive symptoms	Gender: 34,6% female Age: 36,7 years Illness duration, onset and education: n.i. IQ: n.i. Diagnosis: non-affective psychosis (83% schizophrenia) Baseline PANSS: n.i. Daily drug dose (CPZeq): 400,5 mg/day	N=52, 8% attrition rate	8	Metacognitive training (MCT), 1h/week, N=26	Multidisciplinar y treatment as usual including psychoeducatio n, N=26	69	Positive Symptoms
Fernandez- Gonzalo 2015	Spain, single center Outpatients Recent onset (<5 years)	Gender: 10% female Age: 30,5 years Illness duration: 2,6 years Onset: 27,9 years Education: 12,1 years IQ: 83,9 Diagnosis: schizophrenia	N=53, 21% attrition rate	22	Computer- assisted remediation using NPT-MH, 2 sessions/week of 1h each, N=28	Non-specific computer activities, N=25	40	Global Cognition All cognitive domains Global Functioning Global Symptoms Positive Symptoms Negative Symptoms

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Fisher 2015	USA.	(81%), schizoaffectiv e disorder Baseline PANSS: 56,4 Daily drug dose (CPZeq): n.i.	N=121,	8	Computer-	Connector	68	Global Cognition
PISHEL 2013	Outpatients  Recent onset (<2 years)	23,6% female Age: 21,2 years Illness duration: 1,63 years Onset: 19,6 years Education: 12,9 years IQ: 101,7 Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: 58,8 Daily drug dose (CPZeq): 245,9 mg/day	29% attrition rate		assisted remediation using Posit Science Auditory training, 5 sessions/week of 1h each, N=63	Computer games, N=58		Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions Global Functioning Global Symptoms
Fisher 2009- 2016	USA, single center Outpatients	Gender: 27,6% female Age: 41,9 years Illness duration and onset: n.i. Education: 13,3 years IQ: 102,3 Diagnosis: schizophrenia Baseline PANSS: 73,7 Daily drug dose (CPZeq): 370,6 mg/day	N=87, 15% attrition rate	10	Computer- assisted remediation using Posit Science Auditory training, 5 sessions/week of 1h each, N=46	Computer games, N=41	70	Global Cognition Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions Global Functioning Global Symptoms
Fiszdon 2016	USA, single center Outpatients	Gender: 26,7% female Age: 47,8 years Illness duration and onset: n.i. Education: 12,4 years IQ: 93,6 Diagnosis: psychotic disorder (81% schizophrenia, affective psychosis included) Baseline PANSS: 52,7 Daily drug dose (CPZeq): n.i.	N=75, 17% attrition rate	9	Computer- assisted remediation using PSS CogRehab tasks, 5 sessions/week of 1h hour each, N=50	Treatment as usual, N=25	39	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Galderisi 2010	Italy, multi-center Outpatients	Gender: 33,3% female Age: 39,8 years Illness duration: 15 years	N=60, 37% attrition rate	26	Social Skills and Neurocognitive Individualized Training (SSANIT), 2 sessions/week of 1h each, N=30	Structured leisure activities, N=30	63	Global Functioning

		Onset: 24,6 years Education: 10,3 years IQ: n.i. Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): 506,5 mg/day						
Garcia 2003	Spain, single center Outpatients	Gender: 30% female Age: 38,8 years Illness duration: 18,2 years Conset: 20,6 years Education: n.i. IQ: 74,8 Diagnosis: schizophrenia Baseline PANSS: 52,1 Daily drug dose (CPZeq): n.i.	N=23, 13% attrition rate	12	Integrated Psychological Therapy (IPT) Social perception subprogram, 2 sessions/week of 30-60min each, N=13	Treatment as usual, N=10	27	Global Cognition Attention/Vigilan ce Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Garcia- Fernandez 2019	Spain, single center Outpatients Recent onset (<1 year)	Gender: 31,4% female Age: 25,5 years Illness duration and onset: n.i. Education: 13,4 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 108,8 Daily drug dose (CPZeq): 1067,6 mg/day	N=110, 22% attrition rate	12	Computer- assisted remediation using Rehacom, 2 sessions/week of 1h each, N=54	Computer activities, N=56	73	Global Cognition All cognitive domains Global Functioning
Garrido 2013	Spain, single center Outpatients	Gender: 26,8% female Age: 33,3 years Illness duration: 11,4 years Onset: 21,9 years Education: 9,8 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 55,9 Daily drug dose (CPZeq): 317 mg/day	N=67, 27% attrition rate	26	Computer- assisted remediation, 2 sessions/week of 1h each, N=38	Video watching, N=29	70	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning
Gawęda 2015	Poland, single center Outpatients	Gender: 50% female Age: 51 years Illness duration: 21,8 years	N=50, 12% attrition rate	4	Metacognitive Training (MCT), 2 sessions/week of 45-60min each, N=26	Treatment as usual (intensive daily rehabilitation including psychoeducatio n), N=24	57	Global Cognition Processing Speed Working Memory Social Cognition Positive Symptoms

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		Onset: 28,8 years Education: n.i. IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): 488 mg/day						
Gharaeipour 2012	Iran, single center Inpatients	Gender: 29% female Age: 28,7 years Illness duration: 15,3 years Onset: n.i. Education: 10,7 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=42, no dropout s	9	Own program, 5 sessions/week of 1h each + 1 group discussion/week, N=21	Group supportive therapy including psychoeducatio n elements, N=21	65	Global Cognition Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions Positive Symptoms Negative Symptoms
Gohar 2013	Egypt, single center Outpatients	Gender: 19% female Age: 31,9 years Illness duration: 10,2 years Onset: 22 years Education: 12,4 years IQ: n.i. Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: 83 Daily drug dose (CPZeq): n.i.	N=42, no dropout s	8	Social Cognitive Skills Training (SCST), 2 sessions (week of 1h each, N=22	UCLA Skills Training, N=20	55	Global Cognition Social Cognition Global Symptoms Positive Symptoms Negative Symptoms
Gomar 2015	Spain, multi-center Inpatients	Gender: 31,5% female Age: 46,1 years Illness duration: 23,4 years Onset: 22,7 years Education: 9,7 years IQ: 86,1 Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: 75,9 Daily drug dose (CPZeq): 663,7 mg/day	N=130, 18% attrition rate	26	Computer- assisted remediation using FesKits, 2 sessions/week of 45min each, N=43	Computerized typing program, N=44 Treatment as usual, N=43	92	Global Cognition Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions Global Functioning
Gordon 2018	Australia, multi-center Outpatients	Gender: n.i. Age: 35,5 years	N=36, 8% attrition rate	10	Social Cognition and Interaction Training (SCIT), 2 sessions/week of 1h each, N=21	Treatment as usual, Waiting list, N=15	59	Global Cognition Social Cognition Global Functioning

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		Illness duration: 9,8 years Onset: 25,7 years Education: n.i. IQ: n.i. Diagnosis: non-affective psychosis (72% schizophrenia) Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.						
Greig 2007	USA, single center Outpatients	Gender: 46,8% female Age: 40,4 years Illness duration: 16,3 years Onset: 24,1 years Education: 12,7 years IQ: 87,1 Diagnosis: schizophrenia (66%), schizoaffectiv e disorder Baseline PANSS: 79,5 Daily drug dose (CPZeq): n.i.	N=77, 19,5% attrition rate	52	Neurocognitive Enhancement Therapy (NET), 11h/week, + Vocational rehabilitation, N=40	Vocational rehabilitation, N=37	60	Global Cognition Working Memory Verbal Memory Visual Memory Executive Functions Social Cognition
Habel 2010	Germany, single center In- and outpatients	Gender: 100% male Age: 32,6 years Illness duration and onset and education: n.i. IQ: 111,4 Diagnosis: schizophrenia Baseline PANSS: 62,8 Daily drug dose (CPZeq): n.i.	N=20, no dropout s	6	Training of Affect Recognition (TAR), 12 sessions total of 45 min each, N=10	Treatment as usual, N=10	27	Global Cognition Social Cognition
Hadas-Lidor 2001	Israel, single center Outpatients	Gender: 39,6% female Age: 36 years Illness duration, onset and education: n.i. IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=72, 19,5% attrition rate	52	Instrumental Enrichment program, 2-3 sessions/week of 1h each, N=36	Occupational therapy, treatment as usual consisting of daily rehabilitation program, N=36	54	Global Cognition Working Memory Verbal Memory Visual Memory
Hegde 2012	India, single center Outpatients	Gender: 17% female Age: 29,3 years	N=45, 31% attrition rate	9	Home-based program, flexible schedule over time, N=22	Treatment as usual including psychoeducatio n, N=23	35	Global Cognition Attention/Vigilan ce Executive Functions

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	First-episode and recent onset (<2 years)	Illness duration and onset: n.i. Education: 12,8 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 89,7 Daily drug dose (CPZeq): 204 mg/day	N 22					Negative Symptoms
Hermanutz 1991	Germany, single center Inpatients	Gender: n.i. Age: 31,3 years Illness duration and onset: n.i. Education: 11 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 90,9 Daily drug dose (CPZeq): n.i.	N=30, no dropout s	4	Computer- assisted Attention training, unspecified schedule, N=10, or Integrated Psychological Therapy (IPT) selected subprograms, N=10	Treatment as usual, N=10	65	Global Cognition Attention/Vigilan ce Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Hodge 2010	Australia, multi-center In- and outpatients	Gender: 40,6% female Age: 31,3 years Illness duration and onset: n.i. Education: 11 years IQ: 93,7 Diagnosis: schizophrenia Baseline PANSS: 69,2 Daily drug dose (CPZeq): 649,9 mg/day	N=69, 48% attrition rate	10	Neuropsychologi cal and Educational Approach to Remediation (NEAR), 2 sessions/week of 1h each, N=36	Treatment as usual, Waiting list N=33	60	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions
Hogarty 2004	USA, single center Outpatients	Gender: 41% female Age: 37,2 years Illness duration: 15,7 years Onset: 21,5 years Education: n.i. IQ: n.i. Diagnosis: schizophrenia (70%), schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=121, 11,5% attrition rate	104	Cognitive Enhancement Therapy (CET), almost 2,5h/week, + Enriched supportive therapy, N=67	Enriched supportive therapy (including skills training and psychoeducatio n), N=54	63	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning
Hooker 2012	USA, single center Outpatients	Gender: 18% female Age: 46,1 years Illness duration: 24,3 years Onset: 21,8 years	N=22, no dropout s	10	Computer- assisted remediation using Posit Science Auditory training + Social cognition Training, 5 sessions/week of	Computer games, N=11	66	Global Cognition Social Cognition Global Functioning

		Education: 13,3 years IQ: 100,9 Diagnosis: schizophrenia (59%), schizoaffectiv e disorder Baseline PANSS: 72,2 Daily drug dose (CPZeq): 312 mg/day			65-75min each, N=11			
Horan 2009	USA, single center Outpatients	Gender: 6% female Age: 48,2 years Illness duration and onset: n.i. Education: 12,3 years IQ: n.i. Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=34, 9% attrition rate	6	Social Cognitive Skills Training (SCST), 2 sessions/week, N=17	UCLA Illness Self- Management and Relapse Prevention Training, N=17	39	Global Cognition Social Cognition Global Symptoms Positive Symptoms Negative Symptoms
Horan 2011	USA, single center Outpatients	Gender: 11,8% female Age: 48,1 years Illness duration: 25,6 years Onset: 22,5 years Education: 12,9 years IQ: n.i. Diagnosis: non-affective psychosis (71% schizophrenia) Baseline PANSS: 55,9 Daily drug dose (CPZeq): n.i.	N=85, 22% attrition rate	12	Computer-assisted neurocognitive training using Posit Science Aristotle (NR), N=24 Social Cognitive Skills Training (SCST), N=19 Hybrid training (SCST+NR), N=21 In all cases: 2 sessions/week of 1h each	UCLA Skills Training, N=21	69	Global Cognition Social Cognition Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Horan 2018	USA, single center Outpatients	Gender: 30,2% female Age: 47,3 years Illness duration: 25,6 years Onset: 21,7 years Education: 12,4 years IQ: n.i. Diagnosis: non-affective psychotic disorder Baseline PANSS: 50,9 Daily drug dose (CPZeq): n.i.	N=139, 6,5% attrition rate	12	Social Cognitive Skills Training (SCST) either in vivo, N=41 or clinic, N=49 In both cases: flexible schedule, 2 to 3 sessions/week of 1h each.	UCLA Illness Management Skills Training, N=49	85	Global Cognition Social Cognition Global Functioning Global Symptoms Positive Symptoms Negative Symptoms

Iwata 2017	Japan, multi-center Outpatients	Gender: 75% female Age: 34,4 years Illness duration: 11,9 years Onset: 22,5 years Education: n.i. IQ: 97,9 Diagnosis: schizophrenia Baseline PANSS: 58,9 Daily drug dose (CPZeq): 673,3 mg/day	N=60, no dropout s	12	Thinking Skills for Work, 2 sessions/week of 45-60 min each +1-group session/week, N=29	Treatment as usual including social skills training and psychoeducatio n, waiting list, N=31	67	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Jahshan 2019	USA, single center In- and outpatients	Gender: 22,2% female Age: 51,3 years Illness duration: 29,7 years Onset: 21,6 years Education: 12,8 years IQ: n.i. Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: 53,1 Daily drug dose (CPZeq): n.i.	N=99, 16% attrition rate	12	Computer- assisted remediation using either Brain Fitness, N=39 or Cogpack, N=40 In both cases: 3 sessions/week	Computer games, N=20	69	Global Cognition All cognitive domains Global Functioning
Kanie 2019	Japan, multi-center Outpatients	Gender: 42,2% female Age: 36,5 years Illness duration: 14 years Onset: 22,5 years Education: 13,5 years IQ: 101,4 Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: 64,3 Daily drug dose (CPZeq): 632,5 mg/day	N=72, 15% attrition rate	24	Social Cognition and Interaction Training (SCIT), 20-24h/week, N=36	Multidisciplinar y treatment as usual, N=36	75	Global Cognition Social Cognition Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Kantrowitz 2016	USA, multi-center Outpatients	Gender: 35% female Age: 37,7 years Illness duration, onset and education: n.i. IQ: n.i. Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: 70,3	N=133, 34% attrition rate	15	Computer- assisted remediation using Posit Science Brain Fitness + bridging groups using Neuropsychologi cal and Educational Approach to Remediation (NEAR), 2 sessions/week, N=63	Videogames, N=70	74	Global Cognition All cognitive domains Global Functioning Global Symptoms Positive Symptoms Negative Symptoms

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W.		Daily drug dose (CPZeq): 253 mg/day; stabilized on lurasidone at study start	N. M.				49	
Katsumi 2019	Japan, single center Outpatients	Gender: 40,9% female Age: 37,8 years Illness duration: 13,9 years Conset: 23,9 years Education: 12 years IQ: 90,7 Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: 66,6 Daily drug dose (CPZeq): 664,4 mg/day	N=44, no dropout s	5	Neuropsychologi cal and Educational Approach to Remediation (NEAR), 4 sessions/week, of 40-60min each, N=22	Treatment as usual consisting of an integrative rehabilitation program, N=22	42	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Keefe 2012	USA multi-center Outpatients	Gender: 26,4% female Age: 37 years Illness duration and onset: n.i. Education: 13,5 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 56,2 Daily drug dose (CPZeq): n.i.	N=53, 11% attrition rate	8	Computer- assisted remediation using Posit Science Brain Fitness + bridging groups using NEAR, 40h/week (flexible schedule), N=27	Computer games and Healthy lifestyle groups, N=26	82	Global Cognition All cognitive domains Global Functioning Global Symptoms
Kidd 2014	Canada, single center Outpatients, university students	Gender: 54% female Age: 34,2 years Illness duration: 6,9 years Onset: 27,3 years Education: 12,5 years IQ: n.i. Diagnosis: any psychotic disorder (affective psychosis included, 56% schizophrenia) Baseline PANSS: 65,1 Daily drug dose (CPZeq): n.i.	N=37, 16% attrition rate	20	Computer- assisted remediation using Cogpack, 2 sessions/week of 50min each + Group discussions 50min/week + Supported education program, N=19	Supported education program, N=18	65	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Verbal Memory Executive Functions Global Symptoms Positive Symptoms Negative Symptoms
Klingberg 2011	Germany, multi-center Outpatients	Gender: 43,9% female Age: 36,9 years Illness duration: 12,5 years Onset: 24,4 years	N=198, 15% attrition rate	39	Computer- assisted remediation using Cogpack, 20 sessions total, of almost 50min each, N=99	Cognitive Behavioral Therapy (CBT), N=99	91	Global Functioning Global Symptoms Positive Symptoms Negative Symptoms

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		Education: n.i. IQ: 107,6 Diagnosis: schizophrenia Baseline PANSS: 59,4 Daily drug dose (CPZeq): 543 mg/day						
Kukla 2018	USA, single center Outpatients	Gender: 8% female Age: 48,5 years Illness duration and onset: n.i. Education: 12,9 years IQ: n.i. Diagnosis: schizophrenia (70%), schizoaffectiv e disorder Baseline PANSS: 75,1 Daily drug dose (CPZeq): n.i.	N=50, 14% attrition rate	26	Computer- assisted remediation using Posit Science Fitness and Insight, 1 session/week, + Cognitive Behavioral Therapy (CBT), N=25	Cognitive Behavioral Therapy (CBT), N=25	67	Global Cognition All cognitive domains Global Functioning
Kumar 2010	India, single center Inpatients Acute phase	n.i. Gender: 100% male Age: 32,8 years Illness duration: 7,1 years Onset: 25,7 years Education: 9,3 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 98,2 Daily drug dose (CPZeq): n.i.	N=16, no dropout s	4	Metacognitive training (MCT), 2 sessions/week of 45-60min each, N=8	Treatment as usual including psychoeducatio n, N=8	37	Global Symptoms Positive Symptoms Negative Symptoms
Kurtz 2007	USA, multi-center Outpatients	Gender: 33,3% female Age: 35 years Illness duration: 10,5 years Onset: 24,5 years Education: 13,1 years IQ: n.i. Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=42, no dropout s	52	Computer- assisted remediation, 100h total, N=23	Computer skills training, N=19	63	Global Cognition Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions
Kurtz 2015	USA, single center Outpatients	Gender: 27% female Age: 36,6 years Illness duration: 12,6 years	N=64, 12,5% attrition rate	26	Computer- assisted own program + Social Skills Training, 50h total, N=32	Computer games + Social Skills Training, N=32	70	Global Cognition Attention/Vigilan ce Working Memory Verbal Memory Executive Functions

		Onset: 24,1 years Education: 12,1 years IQ: n.i. Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.						Global Functioning
Lado- Colesido 2019	Spain, multi-center Outpatients	Gender: 45% female Age: 40,9 years Illness duration, onset and education: n.i. IQ: 97,9 Diagnosis: schizophrenia (90%), schizoaffectiv e disorder Baseline PANSS: 54,4 Daily drug dose (CPZeq): 1008,3	N=53, attrition rate 5,7%	4	Voices program (from e-Motional training), 2 sessions/week of 30min each, N=27	Treatment as usual (including psychotherapy), N=26	63	Global Cognition Social Cognition
Lee 2013	South Korea, single center Inpatients	Gender: 45% female Age: 43,5 years Illness duration: 17,6 years Onset: 25,3 years Education: 12,8 years IQ: 99,7 Diagnosis: schizophrenia Baseline PANSS: 64 Daily drug dose (CPZeq): 316,8 mg/day	N=66, 9% attrition rate	13	Computer- assisted program using Cog- Trainer, 20 sessions total, N=33	Treatment as usual (including social skills training and psychoeducatio n), N=33	68	Global Cognition Attention/Vigilan ce Working Memory Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Lindenmaye r 2008	USA, single center Inpatients	Gender: 11% female Age: 43,5 years Illness duration: 25,1 years Onset: 18,4 years Education: 10,6 years IQ: n.i. Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=85, 15% attrition rate	12	Computer- assisted remediation using Cogpack, 2-3 computerized sessions/week of 45min each, + 1h group discussions/week + Work program, N=45	Computer games + Work program, N=40	57	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions
Lu 2012	China, single center	Gender: 38,9% female	N=126, 3%	12	Cognitive Remediation Therapy (CRT), 5	Treatment as usual, N=63	43	Global Cognition Executive Functions

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	Inpatients	Age: 37,5 years Illness duration: 23,5 years Onset: 14 years Education: 10,5 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): 745,5 mg/day, the majority	attrition rate		sessions/week of 45min each, N=63			Global Functioning
Mahncke 2019	USA, multi-center Outpatients	receiving clozapine Gender: 19% female Age: 42.9 years Illness duration and onset: n.i. Education: 12.7 years IQ: n.i. Diagnosis: schizophrenia Baseline	N=150, 35% attrition rate	26	Computer- assisted training using a selection of Posit Science tasks and novel exercises, 5 sessions/week of 1h each, N=75	Computer games, N=75	83	Global Cognition Global Functioning
Mak 2013	Poland, single center Outpatients	PANSS: n.i. Daily drug dose (CPZeq): n.i. Gender: 54% female Age: 36,5 years Illness duration: 10 years Onset: 26,5 years Education: n.i. IQ: n.i. Diagnosis: schizophrenia	N=81, dropout s n.i.	8	Computer- assisted remediation using Rehacom, 2 sessions/week of 40min each, N=41	Treatment as usual, N=40	38	Global Cognition Processing Speed Working Memory Executive Functions
Man 2012	Hong Kong, single center Inpatients	Baseline PANSS: 58 Daily drug dose (CPZeq): n.i. Gender: 36,6% female Age: 36,9 years Illness duration, onset and education: n.i. IQ: 89,1 Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq):	N=90, 11% attrition rate	n.i.	Errorless learning training, either computer-assisted, N=30, or therapist-assisted, 12 sessions, N=26	Treatment as usual, N=34	57	Global Cognition Working Memory Verbal Memory Executive Functions
Maroño Souto 2018	Spain, multi-center	n.i. Gender: 13% female Age: 39,2 years	N=61, 2% attrition rate	12	e-Motional training, 1h/week, N=30	Treatment as usual including psychotherapy, N=31	60	Global Cognition Social Cognition Positive Symptoms

Matsuda	Japan,	Illness duration, onset and education: n.i. IQ: 98,5 Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): 600,4 mg/day Gender:	N=62,	12	Japanese	Treatment as	69	Negative Symptoms
2018	multi-center Outpatients	43,5% female Age: 37,1 years Illness duration: 13,5 years Onset: 23,6 years Education: 13,4 years IQ: 101,5 Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	5% attrition rate		Cognitive Rehabilitation Program for Schizophrenia (JCORES), 3 sessions/week of 1h each, N=31	usual, N=31		Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Matsui 2009	Japan, single center Outpatients	Gender: n.i. Age: 32,3 years Illness duration: 8,3 years Onset: 24 years Education: 12,7 years IQ: 99,9 Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): 182,5 mg/day	N=20, no dropout s	12	Own program, 1session/week of 40min, N=11	Treatment as usual (maintenance medication only), N=9	47	Global Cognition Working Memory Executive Functions Social Cognition Positive Symptoms Negative Symptoms
McGurk 2005	USA, multi-center Outpatients	Gender: 45,5% female Age: 35,6 years Illness duration: 12,9 years Onset: 22,7 years Education: 11,3 years IQ: n.i. Diagnosis: any psychotic disorder (affective psychosis included, 73% schizophrenia) Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=48, dropout s n.i.	12	Computer- assisted remediation using Cogpack, 2-3 sessions/week of 1h each, + Supported employment, N=25	Treatment as usual consisting of supported employment, N=23	62	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions Global Symptoms Positive Symptoms Negative Symptoms
McGurk 2016	USA, single center	Gender: 30% female	N=54, 5,5%	12	Thinking Skills for Work + Vocational	Enhanced Vocational	79	Global Cognition Processing Speed

	Outpatients, non- responsive to vocational rehabilitation	Age: 37,7 years Illness duration, onset and education: n.i. IQ: n.i. Diagnosis: psychotic disorder (affective included, 81% schizophrenia) Baseline PANSS: 70,3 Daily drug dose (CPZeq): n.i.	attrition rate		Rehabilitation, 1-2 sessions/week of 45-60min each, N=28	Rehabilitation, N=26		Working Memory Verbal Memory Executive Functions Global Symptoms Positive Symptoms Negative Symptoms
Medalia 1998	USA, single center Inpatients	Gender: 22,5% female Age: 32,5 years Illness duration and onset: n.i. Education: 10,8 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 61,1 Daily drug dose (CPZeq): n.i.	N=54, no dropout s	6	Attention Training, 3 sessions/week of 20min each, N=27	Video watching, N=27	43	Global Cognition Attention/Vigilan ce Global Symptoms
Medalia 2000	USA, single center Inpatients	Gender: 44,4% female Age: 36,3 years Illness duration: 15 years Onset: 21,3 years Education: 10,5 years IQ: n.i. Diagnosis: schizophrenia (75%), schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=54, dropout s n.i.	5	Memory remediation program, N=18 Or Processing Speed remediation program, N=18 In both cases: 2 sessions/week of 25min each	Treatment as usual, N=18	54	Global Cognition Verbal Memory Global Functioning
Meichenbau m 1973	Canada, single center Outpatients 50% acute phase	Gender: 100% male Age: 36 years Illness duration, onset and education: n.i. IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=10, no dropout s	3	Self-instructional training group, own program, 8 sessions of 45 min each, N=5	Yoked practice group, N=5	65	Global Cognition Working Memory Executive Functions Positive Symptoms
Mendella 2015	Canada, single center Outpatients	Gender: 25,9% female Age: 24,9 years	N=31, 13% attrition rate	12	Compensatory Cognitive Training (CCT), 2	Treatment as usual consisting of OnTrack (multidisciplina	52	Global Cognition All cognitive domains

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	First-episode	Illness duration and onset: n.i. Education: 13,2 years IQ: 99,4 Diagnosis: first-episode schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.			sessions/week of 1h each, N=16	ry program for first-episode patients), N=15		Global Functioning Positive Symptoms Negative Symptoms
Morimoto 2018	Japan, single center Outpatients	Gender: 39% female Age: 36,7 years Illness duration: 13 years Onset: 23,8 years Education: 13,7 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 75,6 Daily drug dose (CPZeq): 556,4 mg/day	N=31, no dropout s	12	Vocational and Cognitive Abilities Training (VCAT-J), 2 sessions/week of 1h each, N=16	Treatment as usual, waiting list, N=15	64	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Moritz 2011	Germany, single center In- and outpatients In remission at study start	Gender: 22,2% female Age: 32,8 years Illness duration and onset: n.i. Education: 10,6 years IQ: 100,8 Diagnosis: non-affective psychosis Baseline PANSS: 48,7 Daily drug dose (CPZeq): n.i.	N=37, no dropout s	8	Metacognitive Training (MCT), 1 session/week of 45-60min, N=18	Treatment as usual, Waiting List, N=18	67	Global Cognition Verbal Memory Visual Memory Positive Symptoms
Moritz 2015	Germany, multi-center In- and outpatients	Gender: 63,3% female Age: 39,3 years Illness duration, onset and education: n.i. IQ: n.i. Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=90, 23% attrition rate	6	Home-based computer-assisted remediation using MyBrainTraining, flexible schedule, N=30, or Same program but metacognition- augmented, N=30	Treatment as usual, Waiting list, N=30	50	Negative Symptoms
Müller 2015	Germany, Austria and Switzerland, multi-center Outpatients	Gender: 31% female Age: 34,2 years Illness duration: 10,1 years	N=156, 10% attrition rate	15	Integrated Neurocognitive Therapy (INT), 2 sessions/week of 90 min each, N=81	Treatment as usual, N=75	87	Global Cognition All cognitive domains Global Functioning Global Symptoms

		Onset: 24,2 years Education: 11 years IQ: 104 Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): 438,5 mg/day						Positive Symptoms Negative Symptoms
Müller 2017	Switzerland, Single center Outpatients Severe negative symptoms	Gender: 22,9% female Age: 35,5 years Illness duration: 10,8 years Onset: 24,7 years Education: 10,8 years IQ: 101,4 Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: 78 Daily drug dose (CPZeq): 405,4 mg/day	N=61, 10% attrition rate	15	Integrated Neurocognitive Therapy (INT), 2 sessions/week of 90 min each, N=28	Treatment as usual, N=33	71	Global Cognition Attention Processing Speed Verbal Memory Executive Functions Social Cognition Global Functioning Positive Symptoms Negative Symptoms
O'Reilly 2019	Ireland, single center Inpatients in a forensic setting (medium to high security)	Gender: 15,4% female Age: 41 years Illness duration, onset and education: n.i. IQ: n.i. Diagnosis: schizophrenia (76%), schizoaffectiv e disorder Baseline PANSS: 51,2 Daily drug dose (CPZeq): 488,5 mg/day	N=65, 11% attrition rate	14	Own program for forensic patients, 4 sessions/week, N=32	Treatment as usual, Waiting list, N=33	87	Global Cognition Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions Social Cognition Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Ochoa 2017	Spain, multi-center Outpatients Recent onset (< 5 years)	Gender: 30% female Age: 27,6 years Illness duration: 2,3 years Onset: 25,6 years Education: n.i. IQ: n.i. Diagnosis: schizophrenia spectrum disorder Baseline PANSS: 54,3 Daily drug dose (CPZeq): 494,3 mg/d, typical and atypical	N=122; 27% attrition rate	8	Metacognitive Training (MCT), 1 session/week, N=65	Psychoeducatio n, N=57	71	Global Cognition Social Cognition Global Functioning Global Symptoms Positive Symptoms Negative Symptoms

Ojeda 2012	Spain, single center Inpatients Study defined as treatment resistant	Gender: 21% female Age: 34,1 years Illness duration: 13 years Onset: 22,4 years Education: 9,2 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 99,3 Daily drug dose (CPZeq): 886,7 mg/day	N=93, 10% attrition rate	12	REHACOP, 3 sessions/week of 90 min each, N=47	Occupational group therapy, N= 46	64	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Omiya 2016	Japan, single center In- and outpatients	Gender: 59% female Age: 41 years Illness duration and onset: n.i. Education: 13,4 years IQ: 79,1 Diagnosis: schizophrenia Baseline PANSS: 78,6 Daily drug dose (CPZeq): 906,7 mg/day	N=17, no dropout s	26	Frontal/executive Program (FEP-J), 2 sessions/week of 1h each, N=8	Treatment as usual including psychotherapy, N=9	41	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning Global Symptoms
Østergaard Christensen 2014	Denmark, multi-center Inpatients First-episode	Gender: 46,2% female Age: 24,9 years Illness duration, onset and education: n.i. IQ: n.i. Diagnosis: first-episode of psychosis (schizophrenia 84%) Baseline PANSS: 54,2 Daily drug dose (CPZeq): n.i.	N=117, 16% attrition rate	16	Computer- assisted remediation, 2 sessions/week of 1h each, integrated with OPUS program, N=60	Treatment as usual consisting of a tailored comprehensive psychosocial program (OPUS), N=57	84	Global Cognition All cognitive domains Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Peña 2016	Spain, single center In- and outpatients	Gender: 28% female Age: 39 years Illness duration: 15,8 years Onset: 23,2 years Education: 10,4 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): 488,9 mg/day	N=104, 3% attrition rate	17	REHACOP, 3 sessions/week of 90 min each, N=52	Occupational group activities, N=52	76	Global Cognition Social Cognition Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Penades 2006	Spain, single center Outpatients	Gender: 42,5% female Age: 35,1 years	N=40, 17,5% attrition rate	17	Frontal/Executive Program, 2-3 sessions/week of 1h each, N=20	Cognitive Behavioral Therapy for	67	Global Cognition Processing Speed Working Memory

	Predominant ly negative symptoms	Illness duration: 13,8 years Onset: 21,3 years Education: 11,6 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 67 Daily drug dose (CPZeq): 361,3 mg/day				psychosis (CBTp), N=20		Verbal Memory Visual Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Penades 2013	Spain, single center Outpatients Predominant ly negative symptoms	Gender: 22,9% female Age: 37 years Illness duration: 12,9 years Onset: 24 years Education: 11,8 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 64,7 Daily drug dose (CPZeq): 269,4 mg/day	N=35, dropout s n.i.	17	Frontal/Executive Program, 2-3 sessions/week of 1h each, N=17	Social Skills Training, N=18	72	Global Cognition Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions
Penades 2018	Spain, single center Outpatients	Gender: 31,4% female Age: 40,1 years Illness duration: 15,9 years Conset: 24,2 years Education: n.i. IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 100,4 Daily drug dose (CPZeq): 371,8 mg/day	N=70, 7,1% attrition rate	17	Frontal/Executive Program, 2-3 sessions/week of 1h each, N=35	Social Skills Training, N=35	76	Global Cognition Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions Global Functioning Global Symptoms
Pijnenborg 2019	The Nederlands, multi-center In- and outpatients	Gender: 21,5% female Age: 39,7 years Illness duration: 12,7 years Onset: 27 years Education: n.i. IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 62,6 Daily drug dose (CPZeq): n.i.	N=121, 13% attrition rate	6	Cognitive Remediation Therapy (CRT), 2 sessions/week of 1h each, N=62	REFLEX program, N=59	72	Global Cognition Social Cognition Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Pontes 2013	Brazil, single center Outpatients	Gender: 18% female Age: 38,1 years Illness duration: 15,2 years	N=17, 6% attrition rate	20	Cognitive Attention and Memory Training, 1 session/week of 40-60min, N=9	Newspaper reading groups, N=8	72	Global Cognition Processing Speed Working Memory Verbal Memory Visual Memory

		Onset: 23 years Education: 10,3 years IQ: 93,7 Diagnosis: schizophrenia Baseline PANSS: 48 Daily drug dose (CPZeq): n.i.						Executive Functions Global Symptoms Positive Symptoms Negative Symptoms
Popova 2014	Germany, single center Inpatients	Gender: 33,8% female Age: 37,3 years Illness duration and onset: n.i. Education: 11,2 years IQ: 106,3 Diagnosis: schizophrenia Baseline PANSS: 70,3 Daily drug dose (CPZeq): 601,4 mg/day	N=80, 24% attrition rate	4	Computer- assisted Facial affect and working memory training, N=29 or Auditory discrimination and working memory training, N=27 In both cases 5 sessions/week of 1h each	Treatment as usual, N=24	58	Global Cognition All cognitive domains Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Puig 2014	Spain, single center Outpatients Adolescents	Gender: 48% female Age: 16,7 years Illness duration: 1,4 years Onset: 15,3 years Education: n.i. IQ: n.i. Diagnosis: schizophrenia (88%), schizoaffectiv e disorder Baseline PANSS: 60,1 Daily drug dose (CPZeq): 451,8 mg/day	N=51, 43% attrition rate	20	Cognitive Remediation Therapy (CRT), 2 sessions/week, N=25	Treatment as usual (including psychoeducatio n), N=26	62	Global Cognition Processing Speed Working Memory Verbal Memory Visual Memory Global Functioning Global Symptoms
Rakitzi 2016	Greece, single center Outpatients	Gender: 33% female Age: 32,6 years Illness duration: 5,7 years Onset: 26,9 years Education: n.i. IQ: 89,8 Diagnosis: schizophrenia Baseline PANSS: 118,4 Daily drug dose (CPZeq): 527,1 mg/day	N=48, 25% attrition rate	10	Integrate Psychological Therapy (IPT), cognitive subprograms, 2 sessions/week of 1h each, N=24	Treatment as usual, N=24	65	Global Cognition Attention/Vigilan ce Working Memory Verbal Memory Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Ramsay 2017	USA, single center Outpatients	Gender: n.i. Age: 44,2 years Illness duration: 19,9 years Onset: 24,3 years	N=27, 4% attrition rate	16	Computer- assisted remediation, 3 sessions/week of 1h each, N=15	Computer skills training, N=12	57	Global Cognition Working Memory Global Functioning

		Education: 13 years IQ: 102,8 Diagnosis: schizoaffectiv e disorder Baseline PANSS: 59,3 Daily drug dose (CPZeq): 449,1 mg/day						
Rass 2012	USA, single center Outpatients	Gender: 33,3% female Age: 41,5 years Illness duration: 18,1 years Onset: 23,4 years Education: n.i. IQ: 95,1 Diagnosis: schizophrenia (50%), schizoaffectiv e disorder Baseline PANSS: 56,9 Daily drug dose (CPZeq): n.i.	N=48, 6% attrition rate	10	Computer- assisted remediation using Posit Science tasks, 2 sessions/week of 2h each, N=21	TV watching, N=17, or Treatment as usual, N=10	65	Global Cognition Processing Speed Working Memory Verbal Memory Visual Memory
Reeder 2017	Great Britain, single center In- and outpatients	Gender: 35,5% female Age: 38,3 years Illness duration and onset: n.i. Education: 13,2 years IQ: 93,5 Diagnosis: schizophrenia, schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): 333,3 mg/day	N=93, 6,5% attrition rate	12	Computer- assisted remediation using CIRCuiTS, 3 sessions/week of 1h each, N=46	Multidisciplinar y treatment as usual, N=47	80	Global Cognition Working Memory Visual Memory Global Functioning Positive Symptoms Negative Symptoms
Roberts 2014	USA, single center Outpatients	Gender: 33% female Age: 39,7 years Illness duration: 16,8 years Onset: 23 years Education: n.i. IQ: 99,2 Diagnosis: schizophrenia spectrum disorder (42% schizophrenia) Baseline PANSS: 65,3 Daily drug dose (CPZeq): 632,6 mg/day	N=66, 9% attrition rate	26	Social Cognition and Interaction Training (SCIT), 1h/week, N=33	Treatment as usual, N=33	64	Global Cognition Social Cognition Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Roncone 2004	Italy, single center	Gender: 35% female	N=20, no	22	Instrumental Enrichment program,	Treatment as usual, N=10	51	Global Cognition Processing Speed

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	Inpatients	Age: 33,7 years Illness duration: 14 years Onset: 19,7 years Education: 11,5 years IQ: 84,2 Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	dropout s		modified version, 1h/week, N=10			Executive Functions Social Cognition Negative Symptoms
Royer 2012	France, single center Outpatients	Gender: n.i. Age: 32,8 years Illness duration: 11,1 years Onset: 21,7 years Education: 11,4 years IQ: 99,5 Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=58, 21% attrition rate	26	Computer- assisted remediation using Rehacom + paper-and-pencil exercises, 6h/week, N=31	Treatment as usual, N=27	47	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Verbal Memory Executive Functions
Sachs 2012	Austria, single center In- and outpatients Recent onset (<5 years)	Gender: 47% female Age: 29,3 years Illness duration: 5 years Onset: 24,3 years Education: 14,2 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=40, 5% attrition rate	6	Training of Affect Recognition (TAR), 2 sessions/week of 45min each, N=20	Treatment as usual, N=20	39	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Executive Functions Social Cognition Global Functioning Negative Symptoms
Sanchez 2014	Spain, single center Inpatients	Gender: 24% female Age: 35,5 years Illness duration: 13,4 years Onset: 22,1 years Education: 9,8 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 90,9 Daily drug dose (CPZeq): 718,3 mg/day	N=92, 9% attrition rate	12	REHACOP, 3 sessions/week of 90 min each, N=38	Group activities, N=54	67	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Sartory 2005	Germany, single center	Gender: 33,3% female	N=42, no	3	Computer- assisted remediation using	Treatment as usual, Waiting list N=21	60	Global Cognition Processing Speed

	Outpatients	Age: 31,9 years Illness duration: 6,2 years Onset: 25,8 years Education: 10,3 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): 567,9 mg/day	dropout		Cogpack, 5 sessions/week of 45min each, N=21			Working Memory Verbal Memory
Sevos 2018	France, single center  In- and outpatients	Gender: 26% female Age: 41,2 years Illness duration: 15,1 years Onset: 26,1 years Education: 10,8 years IQ: 96,7 Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=31, no dropout s	10	CineMotion, 1 sessions/week of 90 min, N=16	Treatment as usual including psychotherapy and psychoeducatio n, N=15	44	Global Cognition Social Cognition
Silverstein 2005	USA, single center Inpatients Study defined as treatment resistant	Gender: 12,9% female Age: 39,3 years Illness duration and onset: n.i. Education: 10,5 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=31, dropout s n.i.	6	Attentional Processing Training and Shaping + UCLA Skills Training, unspecified schedule, N=18	Manipulated treatment as usual + UCLA Skills Training, N=13	54	Global Cognition Attention/Vigilan ce Working Memory Verbal Memory Global Functioning Positive Symptoms Negative Symptoms
Silverstein 2009	USA, multi-center In- and outpatients Non responsive to vocational rehabilitation	Gender: 39% female Age: 39 years Illness duration and onset: n.i. Education: 11,4 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): 1035,3 mg/day	N=82, 22% attrition rate	34	Attentional Processing Shaping, 2 sessions/week of 1h each, + UCLA Basic Conversation Skills Training, N=47	UCLA Basic Conversation Skills Training, N=35	56	Global Functioning
So 2015	Hong Kong, single center Outpatients	Gender: 45,5% female Age: 33,9 years	N=44, 36% attrition rate	4	Metacognitive Training for delusions (MCTd), 1h/week, N=23	Treatment as usual, Waiting list N=21	65	Positive Symptoms

	Chronic, with active positive symptoms	Illness duration and onset: n.i. Education: 12,2 years IQ: n.i. Diagnosis: any psychotic disorder (61% schizophrenia) Baseline PANSS: 75,1 Daily drug dose (CPZeq): 274,4 mg/day						
Spaulding 1999	USA, single center Inpatients Severe functional impairment	Gender: 38,5% female Age: 35,7 years Illness duration: 11,9 years Onset: 23,8 years Education: 11,9 years IQ: n.i. Diagnosis: any psychotic disorder (affective psychosis included, 75% schizophrenia) Baseline PANSS: n.i. Daily drug dose (CPZeq): 1609,7 mg/day	N=91, 1% attrition rate	26	Integrated Psychological Therapy (IPT), cognitive subprograms, 2-3 sessions/week of 1h each, N=49	Manualized supportive therapy; treatment as usual including Social skills training, N=42	79	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Tan 2013	China, single center Outpatients	Gender: 43% female Age: 34,7 years Illness duration: 10,6 years Onset: 24,1 years Education: 11,1 years IQ: n.i. Diagnosis: schizophrenia (96%), schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=70, 34% attrition rate	12	Computer- assisted remediation, 3 sessions/week (5h/week), N=36	Physical exercise, N=34	79	Global Cognition Processing Speed Working Memory Verbal Memory
Tan 2016	China, single center Inpatients	Gender: 35% female Age: 46,4 years Illness duration: 22,7 years Onset: 23,7 years Education: 9,9 years IQ: 79,9 Diagnosis: schizophrenia	N=104, 13,5% attrition rate	10	Cognitive Remediation Treatment (CRT), 40 sessions total, 1h each, N=52	Music and Dance therapy, N=52	67	Global Cognition Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms

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		Baseline PANSS: 66,4 Daily drug dose (CPZeq): 277,7 mg/day						Negative Symptoms
Tan 2019	China, multi-center Inpatients	Gender: 38,6% female Age: 45,1 years Illness duration: 20,4 years Onset: 24,5 years Education: 11,8 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 60,5 Daily drug dose (CPZeq): 391,3 mg/day	N=311, 14% attrition rate	12	Computer- assisted remediation, 4-5 sessions/week of 45min each, N=196	Leisure activities, N=115	83	Global Cognition All cognitive domains Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Tao 2015	China, single center Inpatients	Gender: 45% female Age: 29,3 years Illness duration and onset: n.i. Education: n.i. IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 93,2 Daily drug dose (CPZeq): n.i.	N=86, no dropout s	12	Own program, 2 sessions/week of 30min each, N=44	Treatment as usual (maintenance medication only), N=42	26	Global Cognition Processing Speed Working Memory Executive Functions Global Symptoms
Tas 2012	Turkey, single center Outpatients	Gender: 49% female Age: 35,2 years Illness duration: 12,2 years Onset: 23 years Education: 11,1 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 58,9 Daily drug dose (CPZeq): 489,6 mg/day	N=49, 8% attrition rate	14	Social Cognition and Interaction Training, Family version (F-SCIT), 1 session/week of 80min, N=22	Social Stimulation, N=27	52	Global Cognition Social Cognition Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Thomas 2018	USA, single center Inpatients in forensic setting Post-acute phase	Gender: 52% female Age: 35,1 years Illness duration: 15,7 years Onset: 19,4 years Education: 11,8 years IQ: n.i. Diagnosis: schizophrenia, schizoaffectiv e disorder	N=46, 24% attrition rate	13	Targeted computer-assisted remediation using BrainHQ, 3-5 sessions/week of 1h each, N=24	Treatment as usual including psychotherapy, N=22	48	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Verbal Memory Visual Memory Executive Functions Positive Symptoms Negative Symptoms

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		Baseline PANSS: n.i. Daily drug dose (CPZeq): 1163,5 mg/day						
Twamley 2008-2012	USA, multi-center Outpatients	Gender: 35% female Age: 46,3 years Illness duration: 23,3 years Onset: 23,1 years Education: 12,9 years IQ: 106,9 Diagnosis: any psychotic disorder (affective psychosis included, 54% schizophrenia) Baseline PANSS: n.i. Daily drug dose (CPZeq): 383,8 mg/day	N=69, 26% attrition rate	12	Compensatory Cognitive Training (CCT), 2h sessions, unclear frequency, N=38	Treatment as usual (maintenance medication only), N=31	55	Global Cognition Processing Speed Working Memory Verbal Memory Global Functioning Negative Symptoms
Ueland 2004	Norway, single center Inpatients Adolescents	Gender: 46,2% female Age: 15,3 years Illness duration, onset and education: n.i. IQ: 88,6 Diagnosis: any psychotic disorder (affective included, 62% schizophrenia) Baseline PANSS: 73,2 Daily drug dose (CPZeq): n.i.	N=26, dropout s n.i.	12	Own program, with 2 out of 4 subprograms derived from IPT, 30h total, + Psychoeducation, N=14	Psychoeducatio n, N=12	50	Global Cognition Attention/Vigilan ce Processing Speed Working Memory Visual Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Van Oosterhout 2014	The Nederlands, multi-center In- and outpatients Chronic, with active positive symptoms	Gender: 28,6% female Age: 37,5 years Illness duration, onset and education: n.i. IQ: n.i. Diagnosis: any psychotic disorder (64% schizophrenia) Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=154, 28% attrition rate	8	Metacognitive Training (MCT), 1h/week, N=75	Treatment as usual, N=79	84	Global Cognition Social Cognition Positive Symptoms
Vaskinn 2019	Norway, single center Outpatients	Gender: 33,3% female Age: 30,4 years Illness duration: 7,9 years	N=48, 17% attrition rate	8	Training of Affect Recognition (TAR), 2 sessions/week, N=24	Treatment as usual including psychoeducatio n and CBT, N=24	62	Global Cognition Social Cognition Global Functioning Global Symptoms Positive Symptoms

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		Onset: 22,5 years Education: 12,2 years IQ: 101,9 Diagnosis: schizophrenia (81%), schizoaffectiv e disorder Baseline PANSS: 43,7 Daily drug dose (CPZeq): n.i.						Negative Symptoms
Vauth 2005	Germany, single center Inpatients	Gender: 31,9% female Age: 28,8 years Illness duration: 6,1 years Onset: 22,7 years Education: 12,6 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=138, 27,5% attrition rate	8	Integrative remediation (CAT + Cogpack + non-computerized training), 2 sessions/week of 90 min each, + Vocational rehabilitation, N=47	Self-management training for negative symptoms + Vocational rehabilitation, N=45, or Vocational rehabilitation only, N=46	66	Global Cognition Processing Speed Verbal Memory Executive Functions Negative Symptoms
Ventura 2019	USA, single center Outpatients Recent onset (<2 years)	Gender: 22% female Age: 21,5 years Illness duration: 0,7 years Onset: 20,8 years Education: 12,4 years IQ: n.i. Diagnosis: non-affective psychosis (56% schizophrenia) Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=80, attrition rate n.i.	52	Neurocognitive Enhancement Therapy (NET) + Neuropsychologi cal and Educational Approach to Remediation (NEAR), flexible schedule over time (from 3h/week to 2h/week every 2 weeks), N=39	Healthy Behavior training, N=41	54	Global Functioning Negative Symptoms
Vidarsdottir 2019	Iceland, single center Outpatients Recent onset	Gender: 12,3% female Age: 24,2 years Illness duration: 1,9 years Onset: 22,3 years Education: 11,3 years IQ: n.i. Diagnosis: any psychotic disorder (69% schizophrenia) Baseline PANSS: n.i.	N=49, 6% attrition rate	12	Integrative program including elements from SCIT and NEAR and computerized tasks, 2 sessions/week of 2h each, N=25	Treatment as usual, N=24	74	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions Social Cognition Global Functioning Positive Symptoms Negative Symptoms

		Daily drug						
		dose (CPZeq):						
Vita 2011 a	Italy, multi-center Inpatients	n.i. Gender: 30,9% female Age: 39 years Illness duration: 15,9 years Onset: 23,1 years Education: 10,5 years IQ: 86,7 Diagnosis: schizophrenia Baseline PANSS: 88,1 Daily drug dose (CPZeq):	N=84, 2% attrition rate	24	Integrated Psychological Therapy (IPT), cognitive subprograms, N=26 Computer- assisted remediation using Cogpack, N=30 In both cases: 2 sessions/week of 45min each	Non-cognitive oriented rehabilitation adjunctive on treatment as usual, N=28	72	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Vita 2011 b	Italy, single center In- and outpatients	Gender: 16% female Age: 37,2 years Illness duration: 13,7 years Onset: 23,5 years Education: 10,4 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 94,9 Daily drug dose (CPZeq): 847,6 mg/day	N=32, 3% attrition rate	24	Integrated Psychological Therapy (IPT), cognitive subprograms, 2 sessions/week of 45 min each, N=16	Psychosocial rehabilitation adjunctive on treatment as usual, N=16	68	Global Cognition Processing Speed Working Memory Verbal Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Wölwer 2005	Germany, single center In- and outpatients	Gender: 22,1% female Age: 34,3 years Illness duration, onset and education: n.i. IQ: 106,4 Diagnosis: schizophrenia Baseline PANSS: 64,2 Daily drug dose (CPZeq): n.i.	N=77, 31% attrition rate	6	Training of Affect Recognition (TAR), N=28, or Computer- assisted remediation using Cogpack, N=24 In both cases: 2 sessions/week of 45min each	Treatment as usual, N=25	64	Global Cognition Working Memory Verbal Memory Social Cognition Global Symptoms Positive Symptoms Negative Symptoms
Wykes 1999	Great Britain, multi-center Outpatients	Gender: 24,2% female Age: 38,4 years Illness duration and onset: n.i. Education: 12,3 years IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 59,3 Daily drug dose (CPZeq): n.i.	N=33, 12% attrition rate	12	Cognitive Remediation Therapy (CRT), at least 3 sessions/week of 1h each, N=17	Occupational therapy, N=16	68	Global Cognition Processing Speed Working Memory Executive Functions Global Functioning Global Symptoms
Wykes 2007 a	Great Britain, single center	Gender: 35% female	N=40, 22,5%	14	Cognitive Remediation Therapy (CRT), 3	Treatment as usual, N=19	60	Global Cognition Working Memory

	Inpatients  Adolescents and recent onset (<5 years)	Age: 18,2 years Illness duration: 1,2 years Onset: 17 years Education: n.i. IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 67,9 Daily drug dose (CPZeq): n.i.	attrition rate		sessions/week of 1h each, N=21			Executive Functions Global Functioning Global Symptoms
Wykes 2007 b	Great Britain, multi-center Outpatients Severe functional impairment	Gender: 27% female Age: 36 years Illness duration, onset and education: n.i. IQ: n.i. Diagnosis: schizophrenia Baseline PANSS: 59,9 Daily drug dose (CPZeq): 334,4 mg/day	N=85, 8% attrition rate	12	Cognitive Remediation Therapy (CRT), 3 sessions/week, N=43	Treatment as usual, N=42	87	Global Cognition Working Memory Executive Functions Global Functioning Global Symptoms Positive Symptoms Negative Symptoms
Zimmer 2007	Brazil, single center Outpatients	Gender: 28% female Age: 38,2 years Illness duration: 16,5 years Onset: 21,7 years Education: n.i. IQ: n.i. Diagnosis: schizophrenia (95%), schizoaffectiv e disorder Baseline PANSS: n.i. Daily drug dose (CPZeq): n.i.	N=66, 21% attrition rate	12	Integrated Psychological Therapy (IPT), 12week version, 1 session/week of 40min, N=23	Treatment as usual, N=43	66	Global Cognition Global Functioning

CTAM: Clinical Trials Assessment Measure

IQ: Intelligence quotient

PANSS: Positive And Negative Syndrome Scale

CPZeq: Chlorpromazine equivalents

eFigure 1. Forest plot for the effects of cognitive remediation (CR) on global cognition

Man 2012-2 Marono Souto 2018 Matsuda 2018 Matsuda 2018 McSurk 2005 McGurk 2005 McGurk 2016 Medalia 1998 Medalia 2000 Medalia 2000-2 Medniela 2015 Mendella 2015 Monrizo 2018 Morizo 2011 Mueller 2015	0.483 0.003 0.516 0.033 0.72 0.88 0.305 0.506 0.52 0.507 0.574 0.712 0.88 0.305 0.522 0.597 0.712 0.713	0.211 0.253 0.244 0.269 0.249 0.367 0.274 0.276 0.279 0.219 0.487 0.298 0.298 0.298 0.258 0.271 0.271 0.277 0.317 0.277 0.317 0.217 0.218 0.249 0.310 0.219 0.250 0.250 0.271	42 14 45 36 36 29 40 14 42 50 10 18 82 83 84 93 94 95 96 96 97 97 98 98 98 98 98 98 98 98 98 98	366 44 20 45 34 41 77 29 36 8 8 19 38 32 27 7 27 29 36 6 8 19 38 8 21 10 20 36 36 36 36 36 36 36 36 36 36 36 36 36	1.0% 0.8% 0.8% 0.8% 0.9% 0.9% 0.8% 0.8% 0.4% 0.6% 0.6% 0.6% 0.6% 0.6% 0.6% 0.6% 0.6	0.44 [-0.01, 0.89] 0.47 [-0.38, 1.11] 0.48 [-0.14, 1.10] 0.05 [-0.02, 0.41] 0.05 [-0.02, 1.01] 0.03 [-0.46, 0.71] 0.72 [0.24, 1.20] 0.86 [0.20, 1.10] 0.36 [0.20, 1.10] 0.36 [0.20, 1.10] 0.36 [0.20, 1.10] 0.37 [-0.32, 0.83] 0.35 [-0.20, 0.83] 0.35 [-0.20, 1.24] 0.51 [-0.33, 1.04] 0.57 [0.33, 1.04] 0.57 [0.33, 1.04] 0.57 [0.33, 1.04] 0.57 [0.33, 1.04] 0.57 [0.31, 1.10] 0.25 [-0.33, 1.04] 0.25 [-0.33, 1.04] 0.25 [-0.33, 1.04] 0.25 [-0.33, 1.04] 0.25 [-0.33, 1.04] 0.25 [-0.33, 0.99] 0.38 [-0.13, 0.89] 0.38 [-0.13, 0.89] 0.38 [-0.13, 0.89] 0.38 [-0.13, 0.89] 0.38 [-0.13, 0.89] 0.38 [-0.13, 0.89] 0.39 [-0.12, 0.83] 0.39 [-0.12, 0.83] 0.39 [-0.12, 0.83] 0.39 [-0.12, 0.83] 0.39 [-0.12, 0.83] 0.39 [-0.12, 0.83] 0.39 [-0.12, 0.83] 0.39 [-0.12, 0.83] 0.39 [-0.12, 0.83] 0.39 [-0.12, 0.83] 0.39 [-0.12, 0.83] 0.39 [-0.12, 0.83] 0.39 [-0.13, 0.83] 0.49 [-0.30, 0.84] 0.59 [-0.03, 0.64] 0.59 [-0.03, 0.64] 0.59 [-0.03, 0.65] 0.59 [-0.03, 0.65] 0.59 [-0.03, 0.65] 0.59 [-0.03, 0.65]	
Not 2018 Not 2018 Not 2015 Bell 2001	0.483 0.003 0.516 0.033 0.72 0.88 0.305 0.507 0.	0.317 0.211 0.253 0.343 0.244 0.269 0.249 0.269 0.249 0.274 0.276 0.274 0.276 0.278 0.298 0.260 0.271 0.287 0.298 0.260 0.271 0.287 0.298	21 455 31 177 366 366 299 40 414 428 288 29 222 344 25 30 31 112 229 29 113 36 63 31 112 22 29 31 31 31 31 31 31 31 31 31 31 31 31 31	200 455 344 177 299 177 277 277 277 277 277 277 277	0.6% 1.1% 0.8% 0.5% 0.9% 0.9% 0.9% 0.9% 0.9% 0.6% 0.7% 1.0% 0.8% 0.8% 0.8% 0.8% 0.8% 0.8% 0.8% 0	0.48 [-0.14, 1.10] 0.52 [0.02, 1.01] 0.52 [0.02, 1.01] 0.53 [-0.64, 0.71] 0.72 [0.24, 1.20] 0.68 [0.20, 1.16] 0.30 [-0.64, 0.71] 0.72 [0.24, 1.20] 0.56 [0.07, 1.05] 0.52 [-0.20, 1.24] 0.57 [0.03, 1.01] 0.57 [0.	
sell 2001 sellucar 2003 sovie 2012 sessetta 2019 sassetta 2017 sovie 2019 sarvie 2019 sarvi	0.516 0.033 0.72 0.88 0.305 0.55 0.55 0.52 0.577 0.574 0.712	0.253 0.245 0.244 0.274 0.276 0.269 0.269 0.269 0.269 0.269 0.274 0.276 0.276 0.276 0.260 0.271 0.260 0.277 0.317 0.217 0.318 0.243 0.276 0.277 0.317 0.486 0.279 0.303 0.203	311 177 366 366 299 440 144 28 288 399 222 234 463 311 122 221 466 311 323 221 329 322 239 322 349 321 321 322 323 323 324 325 327 327 327 327 327 327 327 327 327 327	34 17 35 35 35 35 35 35 35 35 35 35 35 35 35	0.8% 0.5% 0.6% 0.6% 0.6% 0.6% 0.6% 0.6% 0.6% 0.6	0.52 [0.02, 1.01] 0.73 [0.04, 0.71] 0.77 [0.24, 1.20] 0.78 [0.20, 1.16] 0.30 [0.04, 0.71] 0.77 [0.24, 1.20] 0.56 [0.07, 1.05] 0.56 [0.07, 1.05] 0.56 [0.07, 1.05] 0.56 [0.07, 1.05] 0.57 [0.03, 1.04] 0.57 [0.03, 1.05] 0.57 [0.03, 1.04] 0.57 [0.03, 1.04] 0.57 [0.03, 1.05] 0.57 [0.03, 1.04] 0.57 [0.03, 1.05] 0.57 [0.03,	
Jaellucci 2003 Joshie 2012 Joshie 2014 Joshie 2015 Joshie 2015 Joshie 2016 Joshie 2017 Joshie 2016 Joshie 2017 Jos	0.033 0.727 0.68 0.050 0.507 0	0.343   0.246   0.269   0.367   0.274   0.367   0.274   0.367   0.275   0.276   0.279   0.276   0.279   0.289   0.26   0.271   0.258   0.264   0.271   0.277   0.217   0.217   0.217   0.217   0.317   0.217	177 366 299 440 144 288 550 100 18 399 222 34 46 63 350 11 326 31 31 321 32 399 322 18 388 388 388 38 38 38 38 38 38 38 38 38	177 355 277 277 366 8 199 388 8 199 388 233 277 30 30 277 111 244 11 588 21 12 20 366 366 366 364 10 29	0.5% 0.9% 0.9% 0.5% 0.8% 0.6% 0.6% 0.6% 0.6% 0.6% 0.6% 0.6% 0.6	0.03 [-0.64, 0.71] 0.72 [0.24, 1.20] 0.88 [0.20, 1.16] 0.30 [-0.22, 0.83] 0.56 [0.07, 1.05] 0.52 [-0.20, 1.24] 0.51 [-0.03, 1.04] 0.57 [0.03, 1.04] 0.57 [0.03, 1.04] 0.57 [0.03, 1.04] 0.57 [0.03, 1.04] 0.16 [-0.26, 0.63] 0.08 [-0.31, 0.89] 0.18 [-0.26, 0.63] 0.08 [-0.51, 0.66] 0.08 [-0.51, 0.66] 0.08 [-0.51, 0.66] 0.09 [-0.51, 0.66] 0.19 [-0.26, 0.63] 0.10 [-0.26, 0.63] 0.10 [-0.26, 0.63] 0.10 [-0.26, 0.63] 0.10 [-0.26, 0.63] 0.10 [-0.26, 0.63] 0.10 [-0.26, 0.63] 0.10 [-0.26, 0.63] 0.10 [-0.26, 0.63] 0.10 [-0.26, 0.63] 0.26 [-0.27, 0.78] 0.27 [-0.27, 0.78] 0.28 [-0.27, 0.78] 0.29 [-0.27, 0.78] 0.29 [-0.27, 0.78] 0.29 [-0.27, 0.78] 0.29 [-0.27, 0.78] 0.29 [-0.27, 0.78] 0.29 [-0.27, 0.78] 0.29 [-0.27, 0.78] 0.29 [-0.27, 0.78] 0.25 [-0.23, 0.78]	
Sowie 2012-2 Boyie 2012-2 Bytes 2018 Burda 1994 Bytes 2018 Burda 1994 Bytes 2018 Cassetta 2019 Cassetta 2019-2 Cavallaro 2009 Choi 2017 Choi 2006 Choi 2017 Choi 2018 Choi 2019	0.72 0.88 0.305 0.566 0.52 0.507 0.574 0.215 0.6215 0.6216 0.0316	0.245 0.249 0.249 0.269 0.249 0.269 0.269 0.274 0.276 0.276 0.274 0.276 0.276 0.277 0.277 0.277 0.217 0.217 0.218 0.260 0.271 0.246 0.45 0.279 0.303 0.302 0.231 0.243 0.351 0.277 0.484 0.45 0.219 0.463 0.27 0.463 0.27 0.463 0.27 0.463 0.27 0.463 0.27 0.463 0.27 0.463 0.27 0.463 0.27 0.463 0.27 0.463 0.27 0.463 0.27 0.463 0.27 0.463 0.27 0.463 0.470 0.4	36 29 40 14 28 28 39 30 31 12 29 21 46 63 31 23 21 23 32 21 23 39 31 21 22 39 30 31 31 31 31 31 31 31 31 31 31 31 31 31	35 277 29 177 277 277 366 8 199 323 277 111 244 115 58 50 18 8 121 21 21 20 6 366 36 364 10 29	0.9% 0.8% 0.7% 1.0% 0.8% 0.8% 0.8% 0.8% 0.6% 0.6% 0.9% 0.9% 0.9% 0.9% 0.9% 0.9% 0.9% 0.6% 0.6% 0.6% 0.6% 0.6% 0.6% 0.9% 0.9% 0.9% 0.9% 0.9% 0.9% 0.9% 0.9	0.72 [0.24, 1.20] 0.78 [0.20, 1.16] 0.30 [-0.22, 0.83] 0.56 [0.07, 1.05] 0.52 [-0.20, 1.24] 0.57 [0.03, 1.04] 0.57 [0.03, 1.04] 0.57 [0.03, 1.04] 0.57 [0.03, 1.11] 0.27 [-0.21, 0.53] 0.38 [-0.13, 0.54] 0.38 [-0.13, 0.54] 0.38 [-0.13, 0.89] 0.13 [-0.40, 0.66] 0.38 [-0.13, 0.89] 0.13 [-0.40, 0.66] 0.38 [-0.13, 0.70] 0.40 [-0.67, 0.76] 0.40 [-0.67, 0.76] 0.40 [-0.67, 0.76] 0.45 [-0.77, 0.79] 0.45 [-0.77, 0.79] 0.45 [-0.77, 0.79] 0.45 [-0.77, 0.79] 0.45 [-0.77, 0.79] 0.46 [-0.77, 0.79] 0.47 [-0.77, 0.79] 0.48 [-0.77, 0.79] 0.49 [-0.77, 0.79]	
Bytes 2018 Bytes 2018 Bytes 2018 Bytes 2018 Bytes 2019 Cassetta 2019 Cassetta 2019 Cassetta 2019 Cassetta 2019 Cassetta 2019 Cassetta 2019 Choi 2006 Choi 2007 Choi 20	0.305 0.566 0.526 0.527 0.577 0.574 0.215 0.621 0.315 0.185 0.186 0.186 0.186 0.186 0.187	0.269 0.249 0.276 0.277 0.287 0.298 0.298 0.298 0.298 0.291 0.280 0.271 0.258 0.264 0.417 0.317 0.217 0.317 0.217 0.317 0.217 0.317 0.217 0.318 0.264 0.459 0.302 0.318 0.302 0.318 0.303 0.302 0.318 0.303	29 40 40 14 28 28 28 50 10 18 39 22 29 34 46 63 31 12 22 39 32 18 38 38 10 29 13 10 10	27 29 27 27 27 27 27 36 8 8 9 38 823 32 27 27 11 1 58 82 5 50 18 8 21 20 36 36 36 34 4 10 29 29	0.8% 0.9% 0.5% 0.8% 0.8% 0.8% 0.8% 0.8% 0.8% 0.8% 0.8	0.30 [-0.22, 0.83] 0.56 [0.07, 1.05] 0.52 [-0.20, 1.24] 0.51 [-0.03, 1.04] 0.57 [0.03, 1.14] 0.22 [-0.21, 0.64] 0.52 [-0.33, 1.58] 0.36 [-0.33, 0.98] 0.37 [-0.33, 0.98] 0.38 [-0.13, 0.98] 0.38 [-0.13, 0.98] 0.38 [-0.13, 0.98] 0.38 [-0.13, 0.98] 0.39 [-0.13, 0.98] 0.39 [-0.13, 0.98] 0.39 [-0.13, 0.98] 0.39 [-0.13, 0.98] 0.39 [-0.13, 0.98] 0.39 [-0.13, 0.98] 0.39 [-0.13, 0.98] 0.39 [-0.13, 0.98] 0.39 [-0.13, 0.98] 0.49 [-0.7, 0.78] 0.59 [-0.7, 0.78] 0.59 [-0.7, 0.78] 0.59 [-0.7, 0.79] 0.55 [-0.23, 0.73] 0.59 [-0.7, 0.79]	
Burda 1994 Burda 1994 Burda 1994 Burda 1994 Burda 1994 Burda 1994 Burda 2019 Casselta 2019 Casselta 2019 Casselta 2019 Casselta 2019 Casselta 2019 Casselta 2017 D'Amato 2011 D'Souza 2013 D'Choix 2011 D'Souza 2013 D'Choix 2019 Casselta 2019	0.56 0.52 0.507 0.574 0.215 0.315 0.315 0.076 0.383 0.128 0.002 0.1002 0	0.249 0.367 0.274 0.276 0.289 0.487 0.331 0.228 0.264 0.271 0.258 0.264 0.417 0.217 0.317 0.217 0.317 0.219 0.303 0.302 0.303 0.302 0.318 0.303	40 14 28 28 28 50 10 18 39 22 34 25 50 31 12 29 21 46 63 50 31 12 22 39 50 31 12 22 39 50 10 10 10 10 10 10 10 10 10 1	29 9 177 277 277 276 36 8 8 199 38 38 23 3 20 30 0 20 21 21 21 21 20 36 36 36 36 34 4 10 29	0.9% 0.5% 0.7% 1.0% 0.6% 0.6% 0.6% 0.6% 0.6% 0.6% 0.6% 0	0.56 [0.07, 1.05] 0.52 [-0.20, 1.24] 0.51 [-0.03, 1.04] 0.57 [0.03, 1.04] 0.57 [0.03, 1.04] 0.62 [-0.33, 1.58] 0.32 [-0.33, 0.96] 0.18 [-0.26, 0.63] 0.08 [-0.51, 0.66] 0.18 [-0.26, 0.63] 0.08 [-0.51, 0.66] 0.18 [-0.26, 0.63] 0.09 [-0.55, 0.62] 0.19 [-0.25, 0.63] 0.20 [-0.25, 0.83] 0.31 [-0.30, 0.70] 0.31 [-0.31, 0.70] 0.32 [-0.32, 0.83] 0.34 [-0.37, 0.70] 0.35 [-0.32, 0.73] 0.35 [-0.32, 0.7	
Syme 2013 Cassetta 2019 Cassetta 2019 Cassetta 2019-1 Choi 2006 Choi 2006 Choi 2006 Choi 2006 Choi 2010 Choi 2	0.597 0.574 0.215 0.215 0.221 0.315 0.188 0.076 0.388 0.128 0.0822 0.187 0.055 0.289 0.292 0.187 0.055 0.292 0.187 0.055 0.292 0.124 0.124 0.124 0.124 0.124 0.125 0.155	0.274 0.276 0.289 0.487 0.331 0.228 0.298 0.264 0.264 0.417 0.317 0.217 0.317 0.216 0.45 0.219 0.303 0.302 0.302 0.303 0.302 0.318 0.302 0.318 0.404 0.405 0.407 0.407 0.407 0.407 0.407 0.407 0.407 0.407 0.407 0.407	28 28 50 10 18 39 22 34 42 25 30 31 11 22 29 21 13 63 35 31 11 22 32 11 22 32 18 33 31 11 22 32 11 22 11 22 11 22 11 22 11 22 11 22 11 11	27 27 27 27 36 8 8 19 9 38 23 30 30 30 27 11 24 41 58 8 25 50 36 6 36 5 34 4 10 29 29	0.8% 0.7% 1.0% 0.3% 0.6% 1.0% 0.8% 0.8% 0.8% 0.8% 0.7% 0.6% 1.1% 1.3% 0.9% 0.6% 0.6% 0.6% 0.6% 0.6% 0.9%	0.51 (-0.03, 1.04) 0.57 (-0.03, 1.04) 0.57 (-0.03, 1.11) 0.21 (-0.21, 0.64) 0.62 (-0.33, 1.58) 0.32 (-0.33, 0.96) 0.18 (-0.26, 0.63) 0.08 (-0.13, 0.89) 0.13 (-0.13, 0.89) 0.13 (-0.13, 0.89) 0.13 (-0.13, 0.89) 0.13 (-0.13, 0.89) 0.13 (-0.13, 0.89) 0.13 (-0.13, 0.89) 0.14 (-0.14, 0.86) 0.15 (-0.14, 0.86) 0.16 (-0.14, 0.86) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.25 (-0.25, 0.83) 0.15 (-0.05, 0.85) 0.15 (-0.05, 0.85) 0.15 (-0.05, 0.85) 0.15 (-0.05, 0.85) 0.15 (-0.05, 0.85)	
Cassetta 2019-2 Cassetta 2019-2 Cassetta 2019-2 Cassetta 2019-2 Cassetta 2019 Choi 2006 Choi 2006 Choi 2007 Choi 2017 D'Amato 2011 D'Souza 2013 Dickinson 2010 Dickinson 2010 Dickinson 2010 Dirake 2014 Casset 2014 Casset 2014 Casset 2014 Casset 2012 Care 2016 Casset 2019 Care 2016 Casset 2019 Care 2016 Casset 2019 Cas	0.574 0.215 0.621 0.3015 0.185 0.076 0.302 0.022 0.022 0.025 0.026 0.026 0.026 0.027 0.027 0.027 0.027 0.027 0.027 0.028 0.036	0.276 0.219 0.487 0.331 0.228 0.266 0.271 0.258 0.264 0.277 0.317 0.184 0.246 0.417 0.302 0.302 0.302 0.302 0.303 0.302 0.303	28 50 10 18 39 22 25 30 31 12 29 21 46 63 31 31 32 21 22 32 32 32 32 32 32 33 31 31 31 31 31 31 31 31 31 31 31 31	277 366 8 8 19 9 38 8 23 27 7 30 0 0 27 7 11 124 4 11 58 8 25 5 0 18 8 21 21 21 2 36 6 36 6 36 16 34 4 10 29 29	0.7% 1.0% 0.3% 0.6% 1.0% 0.8% 0.8% 0.4% 0.7% 0.6% 1.1% 1.3% 0.3% 1.0% 0.6% 0.6% 0.6% 0.6% 0.6% 0.9%	0.57 [0.03, 1.11] 0.21 [0.21, 0.64] 0.62 [0.33, 1.58] 0.32 [0.33, 0.96] 0.18 [0.25, 0.63] 0.08 [0.95, 1.06] 0.38 [0.13, 0.89] 0.18 [0.13, 0.89] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.62] 0.19 [0.16, 0.65] 0.19 [0.04, 0.04] 0.19 [0.06, 0.65] 0.19 [0.06, 0.65] 0.21 [0.06, 0.65] 0.21 [0.06, 0.65] 0.23 [0.06, 0.65]	
Cavallaro 2009 Choia 2017 Choia 2006 Choia 2017 D'Amato 2011 D'Souza 2013 D'Souza 2013 D'Souza 2013 D'Souza 2013 D'Souza 2013 D'Souza 2013 D'Souza 2014 Caracta 2014 Caracta 2016 Caracta 2016 Caracta 2003 Caracta 2019 Caracta 2015 Characta 2016 Characta 2016 Characta 2017 Lababa 2010 Hooker 2012 Hooker 2017 Lababa 2017 Lababa 2019 Lababana 2019 La	0.215 0.821 0.315 0.185 0.076 0.383 0.128 0.0822 0.187 0.005 0.220 0.242 0.187 0.420 0.242 0.124 0.124 0.124 0.125 0.155	0.219 0.487 0.331 0.228 0.298 0.260 0.271 0.258 0.264 0.417 0.184 0.45 0.219 0.303 0.302 0.318 0.303 0.302 0.318 0.351 0.247 0.318 0.447 0.490 0.490 0.490 0.490 0.490 0.490	50 10 18 39 22 34 25 30 31 12 29 21 46 63 35 50 11 36 32 11 22 23 39 30 21 31 31 31 31 31 31 31 31 31 31 31 31 31	36 8 19 38 23 23 25 27 27 27 27 21 24 11 58 25 25 21 21 21 20 36 36 36 36 36 15 34 10 0 29	1.0% 0.3% 0.6% 1.0% 0.7% 0.8% 0.8% 0.4% 0.7% 0.6% 0.3% 1.0% 0.6% 0.6% 0.6% 0.6% 0.9% 0.9%	0.21 [-0.21, 0.64] 0.62 [-0.33, 1.58] 0.32 [-0.33, 0.96] 0.18 [-0.26, 0.63] 0.08 [-0.51, 0.66] 0.38 [-0.13, 0.89] 0.13 [-0.40, 0.66] 0.08 [-0.55, 0.42] 0.19 [-0.33, 0.70] 0.21 [-0.41, 0.82] 0.22 [-0.42, 0.83] 0.23 [-0.42, 0.83] 0.24 [-0.42, 0.83] 0.25 [-0.25, 0.83] 0.26 [-0.27, 0.83] 0.27 [-0.42, 0.83] 0.26 [-0.27, 0.73] 0.12 [-1.01, 0.76] 0.25 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.73] 0.15 [-0.20, 0.74] 0.15 [-0.20, 0.65]	
Choi 2006 Choi 2017 D'Amato 2011 D'Amato 2011 D'Souza 2013 Dickinson 2010 Dickinson 2016 Erack 2009 Fan 2017 Farareny 2012 Farareny 2012 Farareny 2012 Farareny 2016 Farareny 2016 Garcia 2003 Barcia-Femandac 2015 Filiatch 2009 Barcia 2003 Barcia 2003 Barcia 2003 Barcia 2003 Barcia 2015 Garcia 2015 Gomar 2015 Gomar 2015 Gomar 2015 Gomar 2015 Gomar 2015 Gomar 2015 Farareny 2014 Federal 2016 Federal 2017 Federal 2017 Federal 2017 Federal 2017 Federal 2017 Federal 2017 Federal 2019 Federal 2015 Federal 2019	0.621 0.315 0.185 0.186 0.076 0.38 0.026 0.050 0	0.487 0.331 0.228 0.298 0.266 0.267 0.258 0.264 0.267 0.217 0.217 0.217 0.217 0.218 0.264 0.249 0.303 0.302 0.303 0.302 0.303 0.303 0.303 0.303 0.303 0.304 0.407 0.407 0.408	10 18 39 22 34 25 30 31 12 22 21 46 63 31 23 21 22 39 32 18 83 10 29 13	8 19 38 23 27 30 27 11 124 19 41 158 25 9 41 21 21 21 20 36 36 36 36 36 34 10 29	0.3% 0.6% 1.0% 0.7% 0.8% 0.8% 0.8% 0.6% 1.1% 1.3% 0.3% 1.0% 0.6% 0.6% 0.6% 0.6% 0.6% 0.9%	0.62 [-0.33, 1.58] 0.62 [-0.33, 0.99] 0.18 [-0.25, 0.63] 0.08 [-0.51, 0.66] 0.38 [-0.13, 0.89] 0.13 [-0.40, 0.66] -0.08 [-0.55, 0.42] 0.19 [-0.33, 0.70] 0.01 [-0.81, 0.82] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.83] 0.29 [-0.25, 0.84] 0.29 [-0.25, 0.68] 0.29 [-0.25, 0.68] 0.29 [-0.25, 0.68] 0.29 [-0.25, 0.68]	
D'Amato 2011 D'Amato 2011 D'Souza 2013 Dickinson 2010 Dickinson 2010 Dickinson 2010 Dickinson 2010 Dickinson 2016 Drake 2014 Eack 2009 Fan 2017 Farareny 2012 Fernandez-Gonzalo 2015 Fisiber 2005 Fisiber 2005 Fisiber 2005 Fisiber 2005 Fisiber 2015 Fisibe	0.185 0.076 0.38 0.128 0.082 0.092 0.20 0.20 0.20 0.25 0.005	0.228 0.298 0.264 0.271 0.258 0.264 0.417 0.277 0.317 0.184 0.246 0.219 0.303 0.303 0.318 0.309 0.231 0.351 0.237 0.383 0.27 0.383 0.27 0.383 0.27 0.383 0.27 0.384 0.442 0.447 0.319 0.442	39 22 34 25 30 31 12 29 21 46 63 50 11 23 32 11 22 39 32 18 83 810 29	38 23 27 30 30 30 27 11 24 19 41 58 25 9 50 18 21 21 20 36 36 36 34 10 29	1.0% 0.7% 0.8% 0.8% 0.8% 0.4% 0.7% 0.6% 1.1% 0.9% 0.3% 1.0% 0.6% 0.6% 1.0% 0.6% 0.6%	0.32 [-0.33, 0.96] 0.18 [-0.26, 0.63] 0.08 [-0.51, 0.66] 0.38 [-0.13, 0.89] 0.13 [-0.40, 0.66] 0.08 [-0.55, 0.42] 0.19 [-0.33, 0.70] 0.11 [-0.31, 0.70] 0.21 [-0.21, 0.70] 0.22 [-0.25, 0.83] 0.24 [-0.42, 0.73] 0.25 [-0.22, 0.73] 0.25 [-0.22, 0.73] 0.12 [-1.01, 0.76] 0.25 [-0.22, 0.73] 0.12 [-1.01, 0.76] 0.25 [-0.23, 0.73] 0.15 [-0.23,	
D'Souza 2013 D'Souza 2013 D'Souza 2010 Donnhoe 2018 D'Trake 2014 Eack 2009 Fara 2017 Farreny 2016 Fara 2017 Farreny 2016 Farreny 2017 Farreny 2018 Farreny 2015	0.076 0.38 0.128 0.1022 0.187 0.0055 0.292 0.227 0.225 0.222 0.225 0.226 0.227 0.225 0.156 0.155 0.155 0.155 0.156 0.155 0.156 0.155 0.156	0.298 0.264 0.271 0.258 0.264 0.417 0.217 0.317 0.184 0.45 0.219 0.303 0.302 0.303 0.302 0.303 0.302 0.303 0.443 0.237 0.463 0.27 0.484 0.494	22 34 25 30 31 12 29 21 46 63 50 31 23 21 22 39 32 21 8 8 8 10 29 13 13	23 27 30 27 11 24 19 41 58 25 9 50 18 21 20 36 15 34 10 29	0.7% 0.8% 0.8% 0.8% 0.4% 0.7% 0.6% 1.1% 1.3% 0.9% 0.6% 0.6% 0.6% 1.0% 0.6% 0.6% 0.6% 0.6% 0.6%	0.08 [-0.51, 0.66] 0.38 [-0.13, 0.89] 0.13 [-0.40, 0.66] 0.08 [-0.56, 0.42] 0.19 [-0.33, 0.70] 0.11 [-0.81, 0.82] 0.29 [-0.25, 0.83] 0.20 [-0.42, 0.82] 0.36 [-0.07, 0.78] 0.45 [-0.07, 0.78]	
Dickinson 2010 Dickinson 2010 Dickinson 2010 Dirake 2014 Eack 2009 Fan 2017 Farreny 2012 Fernandez-Gonzalo 2015 Fisiher 2003 Fisiher 2003 Garcia-Formandez 2019 Garcia-Diskinson 2019 Garcia-Diskinson 2019 Garcia-Condition 2019 Federal 201	0.38 0.128 0.082 0.097 0.005 0.202 0.22 0.23 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25	0.26 0.271 0.258 0.264 0.417 0.277 0.317 0.217 0.184 0.45 0.219 0.303 0.302 0.318 0.203 0.302 0.318 0.203 0.302 0.318 0.203 0.303 0.203 0.303 0.203 0.303 0.	34 25 30 31 12 29 21 46 63 50 11 36 31 22 39 21 22 39 21 22 39 32 31 31 31 31 31 31 31 31 31 31 31 31 31	27 30 30 27 11 24 19 41 58 25 9 50 18 21 20 36 15 34 10 29	0.8% 0.8% 0.8% 0.4% 0.7% 0.6% 1.1% 0.9% 0.3% 1.0% 0.6% 0.6% 0.6% 0.6% 0.6% 0.9%	0.38 [-0.13, 0.89] 0.13 [-0.40, 0.66] -0.08 [-0.59, 0.42] 0.19 [-0.33, 0.70] 0.01 [-0.81, 0.82] 0.29 [-0.25, 0.83] 0.20 [-0.42, 0.82] 0.36 [-0.07, 0.78] 0.43 [0.07, 0.79] 0.43 [0.07, 0.79] 0.45 [-0.23, 0.73] -0.12 [-1.01, 0.76] -0.03 [-0.46, 0.40] 0.59 [0.00, 1.19] 0.69 [0.07, 1.32] 0.08 [-0.53, 0.68] 0.15 [-0.30, 0.61] 0.03 [-0.46, 0.40] 0.59 [0.07, 1.32] 0.08 [-0.53, 0.68] 0.15 [-0.30, 0.61] 0.03 [-0.50, 0.45] 0.23 [-0.46, 0.91]	
Donohoe 2018 Donohoe 2018 Drake 2014 Eack 2009 Far 2017 Farrenty 2012 Farrenty 2012 Fernandez-Conzalo 2015 Fisibler 2005-2016 Fisibler 2005-2016 Fisibler 2005-2016 Fisibler 2005-2016 Fisibler 2005-2016 Fisibler 2015 Gardin 2013 Gardin 2013 Gardin 2013 Gardin 2013 Gardin 2013 Gardin 2015 Gharaelpour 2012 Gohar 2013 Gomar 2015 Gomar 2015 Gomar 2015 Gomar 2015 Gomar 2016-2 Gordon 2018 Grafic 2010 Fisibler 2011 Fisibler 2011 Fisibler 2011 Fisibler 2011 Fisibler 2011 Fisibler 2015 Fisibler 2015 Fisibler 2016 Fisibler 20	0.128 0.082 0.187 0.005 0.232 0.22 0.357 0.429 0.252 0.1332 0.354 0.354 0.354 0.354 0.354 0.354 0.354 0.354 0.354 0.354 0.354 0.355	0.271 0.258 0.264 0.417 0.277 0.317 0.184 0.246 0.419 0.303 0.302 0.318 0.302 0.318 0.247 0.463 0.27 0.463	25 30 31 12 29 21 46 63 50 11 36 31 22 39 32 18 38 10 29 11 11 20 31 21 21 21 21 21 21 21 21 21 21 21 21 21	30 30 27 11 24 19 41 58 25 9 50 18 21 21 20 36 15 34 10 29	0.8% 0.8% 0.4% 0.4% 0.6% 1.1% 1.3% 0.9% 0.6% 0.6% 0.6% 0.6% 0.6% 0.09%	0.13 [-0.40, 0.66] -0.08 [-0.56, 0.42] -0.08 [-0.56, 0.42] -0.19 [-0.33, 0.70] -0.11 [-0.81, 1.082] -0.29 [-0.25, 0.83] -0.29 [-0.25, 0.83] -0.29 [-0.25, 0.83] -0.36 [-0.07, 0.78] -0.45 [-0.77, 0.79] -0.45 [-0.77, 0.79] -0.12 [-1.01, 0.74] -0.12 [-1.01, 0.74] -0.12 [-1.01, 0.74] -0.12 [-1.01, 0.74] -0.12 [-1.01, 0.74] -0.12 [-0.05, 0.75] -0.12 [-0.05, 0.75] -0.12 [-0.05, 0.75] -0.12 [-0.05, 0.75] -0.12 [-0.05, 0.75] -0.12 [-0.05, 0.75] -0.12 [-0.05, 0.68] -0.15 [-0.05, 0.45] -0.03 [-0.50, 0.45] -0.03	
Eack 2009 Eack 2009 Earl 2017 Farrenty 2012 Fernandez-Conzalo 2015 Fisiber 2005-2016 Fisiber 2005-2016 Fisiber 2015 Garcia 2003 Garcia-Fernandez 2019 Garcia 2003 Garcia-Fernandez 2019 Garcia 2013 Garcia 2003 Garcia 2015 Garcia 2016 Fisiber 2016 Fisiber 2017 Fisiber 2018 Fisiber 2018 Fisiber 2018 Fisiber 2019 Fisiber 2016 Fis	0.187 0.005 0.292 0.22 0.357 0.4299 0.252 0.124 0.0052 0.504 0.1054 0.1054 0.1054 0.1054 0.1054 0.1055 0.1056 0.742 0.742 0.742 0.742 0.742 0.744	0.264 0.417 0.277 0.217 0.218 0.246 0.246 0.219 0.303 0.302 0.301 0.243 0.243 0.245 0.257 0.463 0.27 0.463 0.47 0.47 0.49	31 12 29 21 46 63 50 11 36 31 23 21 22 39 32 18 38 10 29 13	27 111 24 199 411 58 25 9 50 18 21 21 20 36 36 15 34 10 29	0.8% 0.4% 0.7% 0.6% 1.1% 0.9% 0.3% 1.0% 0.6% 0.6% 0.6% 0.6% 0.9%	-0.08 [-0.59, 0.42] 0.19 [-0.33, 0.70] 0.01 [-0.81, 0.82] 0.29 [-0.25, 0.83] 0.20 [-0.42, 0.82] 0.36 [-0.07, 0.78] 0.43 [0.07, 0.79] 0.43 [0.07, 0.79] 0.45 [-0.23, 0.73] -0.12 [-1.01, 0.76] -0.03 [-0.46, 0.40] 0.59 [0.00, 1.19] 0.09 [-0.53, 0.68] 0.16 [-0.49, 0.69] 0.09 [-0.53, 0.68] 0.16 [-0.30, 0.61] 0.03 [-0.46, 0.40] 0.30 [-0.50, 0.68] 0.15 [-0.30, 0.61]	
Fan 2017 Farareny 2012 Farareny 2015 Farareny 2015 Farareny 2015 Farareny 2016 Farareny 2017 Farareny 2018 Farareny 2019 Farareny 2017 Fararen	0.005 0.292 0.2 0.2 0.3757 0.429 0.252 0.124 0.0323 0.594 0.133 0.6894 0.0776 0.155 0.103 0.7470 0.225 0.244 0.141 0.141 0.141 0.141 0.141 0.141 0.141	0.417 0.277 0.317 0.218 0.219 0.246 0.45 0.302 0.302 0.302 0.303 0.302 0.303 0.231 0.231 0.231 0.237 0.463 0.463 0.494 0.494 0.496 0	12 29 21 46 63 50 11 36 31 23 21 22 39 32 18 38 10 29 13	11 24 19 41 58 25 9 50 18 21 21 20 36 36 15 34	0.4% 0.7% 0.6% 1.1% 1.3% 0.9% 0.6% 0.6% 0.6% 0.6% 0.6% 0.9%	0.01 [-0.81, 0.82] 0.29 [-0.25, 0.83] 0.20 [-0.42, 0.82] 0.86 [-0.07, 0.78] 0.43 [0.07, 0.79] 0.25 [-0.23, 0.73] -0.12 [-1.01, 0.76] -0.03 [-0.46, 0.40] 0.59 [0.00, 1.19] 0.10 [-0.49, 0.69] 0.69 [0.07, 1.32] 0.08 [-0.53, 0.68] 0.15 [-0.30, 0.61] 0.03 [-0.50, 0.45] 0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Farrenty 2012 Fernandez-Gonzalo 2015 Fisher 2009-2016 Fisher 2009-2016 Fisher 2009-2016 Fisher 2016 Garrial Fisher 2015 Garrial Fisher 2016 Fisher 2016 Fisher 2016 Fisher 2017 Fisher 201	0.292 0.25 0.25 0.25 0.25 0.25 0.25 0.26 0.26 0.26 0.26 0.26 0.27 0.27 0.25 0.27 0.27 0.25 0.27 0.27 0.25 0.27 0.27 0.27 0.27 0.28 0.914 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.9	0.277 0.317 0.217 0.184 0.246 0.45 0.219 0.302 0.318 0.309 0.231 0.243 0.351 0.237 0.463 0.27 0.383 0.448 0.447 0.319 0.196 0.429	29 21 46 63 50 11 36 31 23 21 22 39 32 18 38 10 29 13	24 19 41 58 25 9 50 18 21 21 20 36 36 15 34 10 29	0.7% 0.6% 1.1% 1.3% 0.9% 0.3% 1.0% 0.6% 0.6% 0.6% 0.6% 0.6% 0.0% 0.9%	0.29 [-0.25, 0.83] 0.20 [-0.42, 0.82] 0.36 [-0.07, 0.78] 0.43 [0.07, 0.79] 0.25 [-0.23, 0.73] -0.12 [-1.01, 0.78] -0.12 [-1.01, 0.78] -0.10 [-0.48, 0.40] 0.59 [0.00, 1.19] 0.69 [0.07, 1.32] 0.69 [-0.35, 0.68] 0.15 [-0.30, 0.61] -0.33 [-0.50, 0.45] 0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Fernandez-Gonzalo 2015 Feisher 2003-2016 Fisher 2016 Fisher 2013 Fisher 2013 Fisher 2013 Fisher 2013 Fisher 2015 Fisher 2016 F	0.2 0.3757 0.429 0.252 0.124 0.0322 0.594 0.1033 0.694 0.1033 0.694 0.177 0.225 0.186 0.742 0.197 0.225 0.214 0.191 0.19	0.317 0.217 0.184 0.246 0.45 0.219 0.303 0.302 0.318 0.231 0.243 0.351 0.243 0.463 0.27 0.383 0.448 0.447 0.319 0.196 0.429	21 46 63 50 11 36 31 23 21 22 39 32 18 38 10 29 13	19 41 58 25 9 50 18 21 21 20 36 36 15 34 10 29	0.6% 1.1% 1.3% 0.9% 0.3% 1.0% 0.6% 0.6% 0.6% 1.0%	0.26 [-0.42, 0.82] 0.36 [-0.70, 0.78] 0.43 [0.07, 0.79] 0.25 [-0.23, 0.73] 0.12 [-1.01, 0.76] -0.03 [-0.46, 0.40] 0.59 [0.00, 1.19] 0.10 [-0.49, 0.69] 0.69 [0.07, 1.32] 0.08 [-0.53, 0.68] 0.15 [-0.30, 0.61] -0.03 [-0.55, 0.45] 0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Fisher 2009-2016 Fisher 2015 Fisher 2015 Fisher 2016 Garcia 2003 Garcia-Femandez 2019 Garcia 2003 Garcia-Femandez 2019 Garcia 2015 Garcia 2016 Garcia 2016 Fisher	0.429 0.252 0.124 0.032 0.594 0.103 0.684 0.103 0.684 0.155 0.277 0.225 0.186 0.742 0.026 0.074 0.006 0.141 0.006 0.141 0.181 0.141 0.441	0.184 0.246 0.45 0.219 0.303 0.302 0.318 0.309 0.231 0.243 0.251 0.27 0.463 0.27 0.383 0.448 0.448 0.449	63 50 11 36 31 23 21 22 39 32 18 38 10 29 13	58 25 9 50 18 21 21 20 36 36 15 34 10 29	1.3% 0.9% 0.3% 1.0% 0.6% 0.6% 0.6% 1.0% 0.9% 0.5% 0.9%	0.36 (-0.07, 0.78) 0.43 [0.07, 0.79] 0.25 [-0.23, 0.73] -0.12 (-1.01, 0.76] -0.03 [-0.46, 0.40] 0.59 [0.00, 1.19] 0.10 [-0.49, 0.69] 0.89 [0.07, 1.32] 0.08 [-0.53, 0.68] 0.15 [-0.30, 0.61] -0.03 [-0.50, 0.45] 0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Fiszdon 2016 Sarcia 2003 Sarcia Femandez 2019 Sarcia Pemandez 2019 Sarcia Pemandez 2019 Sarcia Pemandez 2015 Sarcia Coloria Sarcia Coloria Sarcia Coloria Colo	0.252 0.124 0.032 0.594 0.103 0.594 0.103 0.694 0.0765 0.0766 0.0766 0.0762 0.225 0.914 0.0914 0.097 0.077 0	0.246 0.45 0.219 0.303 0.302 0.318 0.309 0.231 0.243 0.351 0.237 0.463 0.27 0.383 0.444 0.319 0.196 0.429	50 11 36 31 23 21 22 39 32 18 38 10 29 13	25 9 50 18 21 21 20 36 36 15 34 10 29	0.9% 0.3% 1.0% 0.6% 0.6% 0.6% 1.0% 0.9% 0.5% 0.9%	0.25 [-0.23, 0.73] -0.12 [-1.01, 0.76] -0.03 [-0.46, 0.40] 0.59 [0.00, 1.19] 0.10 [-0.49, 0.69] 0.69 [0.07, 1.32] 0.08 [-0.53, 0.68] 0.15 [-0.30, 0.61] -0.03 [-0.50, 0.45] 0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Sarcia 2003 Sarcia-Femnadez 2019 Sarrido 2013 Sarcia-Femnadez 2019 Sarrido 2013 Sarcia-Femnadez 2015 Sharanejour 2015 Sharanejour 2015 Sonara 2015 Sonara 2015 Sonara 2015 Sonara 2015 Sonara 2015 Sonara 2016 Sonara 2016 Sonara 2016 Sonara 2016 Sonara 2010 Hadian-Lidor 2001 Hadian-Lidor 2001 Hadian-Lidor 2001 Hedian-Lidor 2001 Hadian-Lidor 2001 Hadian-Li	-0.124 -0.032 -0.594 -0.033 -0.684 -0.076 -0.155 -0.027 -0.225 -0.186 -0.742 -0.181 -0.194	0.45 0.219 0.303 0.302 0.318 0.309 0.231 0.243 0.351 0.237 0.463 0.27 0.383 0.448 0.447 0.319 0.196 0.429	11 36 31 23 21 22 39 32 18 38 10 29 13	9 50 18 21 21 20 36 36 15 34 10 29	0.3% 1.0% 0.6% 0.6% 0.6% 1.0% 0.9% 0.5% 0.9%	-0.12 [-1.01, 0.76] -0.03 [-0.46, 0.40] 0.59 [0.0, 1.19] 0.10 [-0.49, 0.69] 0.89 [0.07, 1.32] 0.08 [-0.53, 0.88] 0.15 [-0.30, 0.61] -0.03 [-0.50, 0.45] 0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Sarcias-Femandez 2019 Sarcias-Pemandez 2019 Sarrido 2013 Sarveda 2015 Sharaeipour 2012 Sohar 2013 Somar 2015 Somar 2015 Somar 2015 Somar 2015 Somar 2015 Somar 2016 Sordon 2018 Greig 2007 Hadas-Lafor 2001 Hedga 2010 Hedga 2010 Hogarty 2004 Hodga 2010 Hogarty 2004 Hodga 2010 Hogarty 2004 Hodga 2010 Hogarty 2004 Hodga 2011 Horan 2011-2 Horan 2011-3 Horan 2011-3 Horan 2011-3 Horan 2011-3 Horan 2018 Horan 2019-1 Sarkina 2019 Sarkina 20	-0.032   -0.094   -0.0103   -0.076   -0.076   -0.077   -0.027   -0.027   -0.027   -0.027   -0.027   -0.044   -0	0.219 0.303 0.302 0.318 0.309 0.231 0.243 0.351 0.237 0.463 0.27 0.383 0.448 0.447 0.319 0.196 0.429	36 31 23 21 22 39 32 18 38 10 29 13	50 18 21 21 20 36 36 15 34 10	1.0% 0.6% 0.6% 0.6% 1.0% 0.9% 0.5% 0.9%	-0.03 [-0.46, 0.40] 0.59 [0.00, 1.19] 0.10 [-0.49, 0.69] 0.69 [0.07, 1.32] 0.08 [-0.53, 0.68] 0.15 [-0.30, 0.61] -0.03 [-0.50, 0.45] 0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Garweda 2015 Gharaeipour 2012 Gohar 2013 Gohar 2015 Gohar 2015 Gomar 2015 Gomar 2015 Gomar 2015 Gomar 2016-2 Gomar 2016-2 Gomar 2018 Greig 2007 Hadas-Lolor 2001 Hedge 2012 Hemanutz 1891-2 Hemanutz 1891-2 Hondar 2010 Hogarty 2004 Hooker 2012 Horan 2009 Horan 2011-3 Horan 2011-3 Horan 2018 Horan 2019-2 Kanie 2019 Jahshan 2019-2 Jahsha	0.103 0.694 0.076 0.155 -0.027 0.225 0.186 0.742 0.678 0.914 0.149 -0.007 0.226 0.255 0.274 -0.181 -0.141 -0.141 -0.046 0.014	0.302 0.318 0.309 0.231 0.243 0.351 0.237 0.463 0.27 0.383 0.448 0.447 0.319 0.196 0.429	23 21 22 39 32 18 38 10 29 13	21 20 36 36 15 34 10 29	0.6% 0.6% 0.6% 1.0% 0.9% 0.5% 0.9%	0.59 [0.00, 1.19] 0.10 [-0.49, 0.69] 0.69 [0.07, 1.32] 0.08 [-0.53, 0.68] 0.15 [-0.30, 0.61] -0.03 [-0.50, 0.45] 0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Sharaeipour 2012 Sohara 2013 Somar 2015 Somar 2015 Somar 2015 Somar 2015 Somar 2015 Somar 2015 Somar 2016 Sordon 2018 Soria 2010 Hadel 2010 Hadel 2010 Hadel 2010 Hadel 2010 Hadel 2010 Hogies 2010 Hogies 2010 Hogies 2010 Hogies 2010 Horan 2012 Horan 2011 Horan 2012 Horan 2011 Horan 2011 Horan 2018 Somar 2011 Somar 2018 Horan 2011 Somar 2012 Somar 2012 Somar 2011 Somar 2012 Somar 2012 Somar 2011 Somar 2012 Somar 2012 Somar 2013 Somar 2012 Somar 2013 Somar 2012 Somar 2012 Somar 2012 Somar 2012 Somar 2012 Somar 2013 Somar 2012 Somar 2012 Somar 2013 Somar 2012 Somar 2013 Somar 2013 Somar 2012 Somar 2013	0.694 0.076 0.155 -0.027 0.225 0.186 0.742 0.678 0.914 0.149 -0.007 0.226 0.255 0.274 -0.183 -0.015 0.774 0.181 -0.146 0.141 0.441	0.318 0.309 0.231 0.243 0.351 0.237 0.463 0.27 0.383 0.448 0.447 0.319 0.196 0.429	21 22 39 32 18 38 10 29 13	21 20 36 36 15 34 10 29	0.6% 0.6% 1.0% 0.9% 0.5% 0.9%	0.69 [0.07, 1.32] 0.08 [-0.53, 0.68] 0.15 [-0.30, 0.61] -0.03 [-0.50, 0.45] 0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Sohar 2013 Sohar 2015 Somar 2015 Somar 2015 Somar 2015 Somar 2015 Sordon 2018 Greig 2007 Hadas-Lador 2001 Hedge 2019 Howar 2019 Howar 2019 Howar 2019 Howar 2011 Howar 2011 Howar 2011 Howar 2011 Howar 2019 Howar 2015	0.076 0.155 -0.027 0.225 0.186 0.742 0.578 0.914 0.149 -0.007 0.226 0.255 0.274 -0.183 -0.015 0.774 0.181 -0.441 -0.441 -0.446 0.014	0.309 0.231 0.243 0.351 0.237 0.463 0.27 0.383 0.448 0.447 0.319 0.196 0.429	22 39 32 18 38 10 29 13	20 36 36 15 34 10 29	0.6% 1.0% 0.9% 0.5% 0.9%	0.08 [-0.53, 0.68] 0.15 [-0.30, 0.61] -0.03 [-0.50, 0.45] 0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Somar 2015 Somar 2015 Somar 2015 Sordon 2018 Graig 2007 Habel 2010 Habel 2010 Hegde 2012 Hemanutz 1991 Hemmanutz 1991 Hemmanutz 1991 Hemmanutz 1991 Hemmanutz 1991 Hemmanutz 1991 Hodge 2010 Hodge 2011 Hodge 2011 Jahehan 2019 Jahehan 2019 Jahehan 2019 Kaltu 2016 Kaltu 2019 Kaltu 2019 Kaltu 2019 Kaltu 2019 Mahncke 2019 Medalia 2000 Medalia 2000 Medalia 2000 Medalia 2000 Medalia 2000 Medalia 2000 Medichenbaum 1973 Mendelle 2015 Morrizo 2018 Morrizo 2015 Morrizo 2018 Morrizo 2015	0.155 -0.027 0.225 0.186 0.742 0.678 0.914 0.149 -0.007 0.226 0.255 0.274 -0.183 -0.015 0.774 0.181 -0.146 0.141 -0.046 0.014	0.231 0.243 0.351 0.237 0.463 0.27 0.383 0.448 0.447 0.319 0.196 0.429	39 32 18 38 10 29 13	36 36 15 34 10 29	1.0% 0.9% 0.5% 0.9%	0.15 [-0.30, 0.61] -0.03 [-0.50, 0.45] 0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Gordon 2018 Gordon 2018 Greig 2007 Habel 2010 Habel 2010 Habel 2010 Hedge 2012 Hendas-Lidor 2001 Hedge 2012 Hermanutz 1991-2 Hoodge 2010 Hoogan 2010 Hoogan 2010 Hoogan 2010 Hoogan 2011 Hoom 2011-3 Hoom 2011-3 Hoom 2011-3 Hoom 2018-2 Watal 2017 Jahehan 2019 Jahehan 2019 Katle	0.225 0.186 0.742 0.678 0.914 0.149 -0.007 0.226 0.255 0.274 -0.183 -0.015 0.774 0.181 -0.146 0.141 0.441	0.351 0.237 0.463 0.27 0.383 0.448 0.447 0.319 0.196 0.429	18 38 10 29 13 10	15 34 10 29	0.5% 0.9%	-0.03 [-0.50, 0.45] 0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Greig 2007 Habba 2010 Hadas-Lidor 2001 Hadas-Lidor 2001 Hadas-Lidor 2001 Hadas-Lidor 2001 Hadas-Lidor 2001 Hedga 2012 Hermanutz 1991 Hermanutz 1991 Hermanutz 1991 Hermanutz 1991 Hodga 2010 Hodga 2010 Hodga 2010 Hodga 2011 Hodga 2011 Hodga 2011 Hodga 2011 Hodga 2011 Jahahan 2019 Jahahan 2019 Jahahan 2019 Kantrowitz 2016 Kantrowitz 2016 Kantrowitz 2016 Katsumi 2019 Keefe 2012 Kotid 2014 Kukia 2019 Jahahan 2019 Keefe 2012 Mantroke 2019 Jahahan 2019 Keefe 2012 Mantrowitz 2016 Kukia 2019 Mantrowitz 2016 Mantrowitz 2016 Mantrowitz 2016 Mantrowitz 2019 Meddia 2000 Meddia 2000 Meddia 2010 Meddia 2010 Meddia 2015 Monritz 2011 Mueller 2015	0.186 0.742 0.678 0.914 0.149 -0.007 0.226 0.255 0.274 -0.183 -0.015 0.774 0.181 -0.146 0.141 0.044	0.237 0.463 0.27 0.383 0.448 0.447 0.319 0.196 0.429	38 10 29 13 10	34 10 29	0.9%	0.23 [-0.46, 0.91] 0.19 [-0.28, 0.65]	
Habel 2010 Hades 2010 Hades 2012 Hengale 2012 Hermanutz 1991 Hermanutz 1991 Hermanutz 1991 Hermanutz 1991 Hermanutz 1991 Hodge 2010 Hodge 2010 Hodge 2010 Hodge 2010 Hodge 2010 Hodge 2011 Hades 2015 Hodge 2011 Hades 2011 Hades 2019 Hodge 2011 Hodge 2015 Hodge 2011 Hodge 2015 Hodge 2015 Hodge 2016	0.742 0.678 0.914 0.149 -0.007 0.226 0.225 0.274 -0.183 -0.015 0.774 0.181 0.141 0.441 0.044	0.463 0.27 0.383 0.448 0.447 0.319 0.196 0.429	10 29 13 10	10 29			-
Hadas-Lidor 2001 Hadas-Lidor 2001 Hadas-Lidor 2001 Hermanutz 1991 Hermanutz 1991 Hermanutz 1991 Hodge 2010 Hodge 2010 Hodge 2010 Hodge 2010 Hodge 2012 Hodge 2012 Hodge 2011 Hodge 2015 Hodge 2011 Hodge 2015 Hodge 2011 Hodge 2015 Hodge 2011 Hodge 2015	0.678 0.914 0.149 -0.007 0.226 0.255 0.274 -0.183 -0.015 0.774 0.181 -0.146 0.141	0.27 0.383 0.448 0.447 0.319 0.196 0.429	29 13 10	29	0.3%	0.74 [-0.17, 1.65]	<del></del>
Hegde 2012 Hemmanutz 1991 - Hemmanutz 1900 - Hemmanutz 2000 - Hemmanutz 2001 - Hemmanutz 2011 - Hemmanutz 2018 - Hemmanutz 2019 - Hemmanutz 2019 - Hemmanutz 2016 - Hemmanutz 2017 - Hemmanutz 2018 - Hemmanutz 2016 - Hemmanutz 20	0.914 0.149 -0.007 0.226 0.255 0.274 -0.183 -0.015 0.774 0.181 -0.146 0.141 -0.046	0.383 0.448 0.447 0.319 0.196 0.429	13 10		0.8%	0.74 [-0.17, 1.65]	
Heimanutz 1991 Heimanutz 1991 Heimanutz 1991 Hodge 2010 Hodge 2010 Hodge 2010 Hodge 2010 Hodge 2010 Hodge 2012 Hodge 2013 Hodge 2012 Hodge 2012 Hodge 2012 Hodge 2013 Hodge 2019 Hodge 2015	-0.007 0.226 0.255 0.274 -0.183 -0.015 0.774 0.181 -0.146 0.141 0.441 -0.464 0.014	0.447 0.319 0.196 0.429	10	18	0.4%	0.91 [0.16, 1.66]	
Hodge 2010 Hodge 2010 Hodge 2010 Hodge 2010 Hooker 2012 Hooker 2012 Horora 2009 Horan 2011 Horora 2018 Horora 2019 Horora 2018 Horora 2019 Horora 2018 Horora 2019 Horora 2018 Horizo 2018 Horizo 2011 Horizo 2018 Horizo 2018 Horizo 2011 Horizo 2015	0.226 0.255 0.274 -0.183 -0.015 0.774 0.181 -0.146 0.141 0.441 -0.046	0.319 0.196 0.429		10	0.3%	0.15 [-0.73, 1.03]	<del></del>
-logatry 2004 -logatry 2004 -looker 2012 -looran 2009 -looran 2011 -looran 2011 -looran 2011 -looran 2011-3 -looran 2018 -looran 2018 -looran 2018 -looran 2018 -looran 2019-2 -lashshan 2019 -lashshan 2014 -lashshan 2014 -lashshan 2019 -lashshan 2018 -lashshan 2019 -las	0.255 0.274 -0.183 -0.015 0.774 0.181 -0.146 0.141 0.441 -0.046 0.014	0.196 0.429	10 22	10 18	0.3%	-0.01 [-0.88, 0.87]	
Hooker 2012 Hooker 2012 Hooker 2014 Horan 2009 Horan 2011 Horan 2011 Horan 2011 Horan 2011 Horan 2011 Horan 2011 Horan 2018 Horan 2019 Kantrowstr 2016 Katsumi 2019 Kantrowstr 2016 Katsumi 2019 Kantrowstr 2016 Katsumi 2019 Kantrowstr 2016 Horan 2018 Horan 2012 Horan 2018 Horan 2012 Horan 2015 Horan 2	0.274 -0.183 -0.015 0.774 0.181 -0.146 0.141 0.441 -0.046 0.014	0.429	22 61	18 46	1.2%	0.23 [-0.40, 0.85] 0.26 [-0.13, 0.64]	4
Horan 2009 Horan 2011 Horan 2011-2 Horan 2011-3 Horan 2011-3 Horan 2011-3 Horan 2011-3 Horan 2018 Horan 2019-2 Wata 2017 Jahashan 2019-2 Karlicowitz 2019 Karlicowitz 2019 Karlicowitz 2019 Karlicowitz 2019 Karlicowitz 2016 Karlicowitz 2016 Karlicowitz 2016 Karlicowitz 2016 Kurtz 2007 Kurtz 2015 Lado-Colesido 2019 Lee 2013 Lindenmayer 2008 Luz 2012 Wahncke 2019	-0.015 0.774 0.181 -0.146 0.141 0.441 -0.046 0.014	0.20	11	11	0.4%	0.27 [-0.57, 1.11]	<del>-   -</del>
Horan 2011-2 Horan 2011-3 Horan 2011-3 Horan 2018 Horan 2018 Horan 2018 Horan 2018 Jahahan 2019-2 Jahahan 2019-1 Jahahan 2019-2 Jahahan 2019-1 Jahahan 2011-1 Jahahan 2015-1 Jahahan 2019-1 Jahahan 2015-1 Jahahan 2019-1 Jahahan 2015-1 Jahahan 2019-1 Jahahan 2015-1 Jahahan 2019-1 Jahahan 2019-	0.774 0.181 -0.146 0.141 0.441 -0.046 0.014		15	16	0.5%	-0.18 [-0.89, 0.52]	
I-loran 2011-3 I-loran 2018-1 I-loran 2018-1 I-loran 2018-1 I-loran 2018-1 I-lahahan 2019 I-lahahan 2019 I-lahahan 2019-1 I-lahahan 2019-1 Kantowitz 2016 Katsumi 2019 Kastumi 2016 Kastumi 2019 Kastumi 2019 Kastumi 2019 I-lando-Colesido 2018 I-lando-Colesido 2016 I-lando-Colesido 2018 I-lando-Colesido 2019 I-lando-Col	0.181 -0.146 0.141 0.441 -0.046 0.014	0.324	19 16	19 19	0.6%	-0.01 [-0.65, 0.62] 0.77 [0.08, 1.46]	
Horan 2018 Horan 2018 Horan 2018-2 Wata 2017 Jahshan 2019 Jahshan 2019-2 Jahshan 2019-2 Karnic 2019 Keefe 2012 Keefe 2012 Keefe 2012 Keefe 2012 Keefe 2012 Keefe 2012 Keefe 2013 Jahshan 2019-2 Keefe 2019 Keefe 2019 Keefe 2019 Jahshan 2019 J	-0.146 0.141 0.441 -0.046 0.014		16 14	19 19	0.5%	0.77 [0.08, 1.46]	
wata 2017 Jahshan 2019 Jahshan 2019-2 Jahshan 2019-2 Kanic 2019 Kanic 2019 Kanic 2019 Keefe 2012 Kodd 2014 Kodd 2014 Kodd 2016 Kodd 2014 Kodd 2017 Kodd 2016 Kodd 2019 Kodd 2019 Lado-Colessido 2019 Mahncke 2019 Meddila 2000 Meddila 2000 Meddila 2000 Meddila 2000 Meddila 2010 Meddila 2015 Mendella 2015 Monrizo 2018 Morizo 2018 Morizo 2011 Mueller 2015	0.441 -0.046 0.014	0.214	41	47	1.1%	-0.15 [-0.57, 0.27]	<del></del>
Jahshan 2019 Jahshan 2019 Jahshan 2019 Kanie 2019 Kanie 2019 Kastuwin 2019 Kastuwin 2019 Kede 2014 Kukla 2018 Kutrz 2007 Kutrz 2007 Kutrz 2016 Jado-Colesido 2019 Lea 2013 Lindenmayer 2008 Lu 2012 Jahnhacke 2019 Jahnh	-0.046 0.014	0.207 0.271	47	47 28	1.1%	0.14 [-0.26, 0.55]	
Jahshan 2019-2 Kanira 2019-1 Kanira 2019 Kanira 2019 Keefe 2012 Kidu 2014 Kukia 2018 Kurtz 2016 Kurtz 2016 Kurtz 2016 Kurtz 2015 Jan-Collesido 2019 Jan-Collesido 2018 Jan-Collesido 2009 Jan-Collesido 2018 Jan-Collesido 2019 Jan-Collesido 201	0.014	0.271	28 29	28 19	0.8%	0.44 [-0.09, 0.97] -0.05 [-0.62, 0.53]	
Kantrowitz-2016 Katsumi 2019 Keefe 2012 Kidu 2014 Kukida 2018 Kututz 2007 Kuttz 2015 Kutta 2018 Kututz 2007 Kuttz 2015 Man-Collesido 2019 Man-Collesido 2018 Man-Collesido 2018 Matsul 2000 McGuirk 2005 McGuirk 2005 McGuirk 2016 Medalia 1980 Medalia 2000-2 Medalia 2000-2 Medalia 2010-5 Medinelia 2015			35	19	0.7%	0.01 [-0.54, 0.57]	
Kalsumi 2019 Keefer 2012 Kidd 2014 Kidd 2014 Kidd 2018 Kurtz 2007 Kurtz 2007 Kurtz 2007 Kurtz 2019 Lee 2013 Lindenmayer 2008 Lindenmayer 2009 Medalia 2016 Medalia 2016 Medalia 1908 Medalia 2000 Medalia 2000 Medalia 2000 Medalia 2000 Medalia 2000 Medalia 2000 Medalia 2015 Mendelle 2015 Mendiel 2015 Monirizo 2018 Morizz 2011 Mueller 2015	-0.006	0.25	32	32	0.9%	-0.01 [-0.50, 0.48]	
Keefe 2012 Kidid 2014 Kuklis 2018 Kutt 2007 Kutt 2015 Lado-Colesido 2019 Lee 2013 Lee 2013 Lee 2013 Lee 2013 Mahncke 2019 Mak 2013 Man 2012 Man 2012-2 Man 2012-2 Man 2012-2 Mastud 2018 Matsud 2018 Matsud 2018 Matsud 2018 Medsulis 2016 Medsulis 2016 Medsulis 2009 Medsulis 2000 Medsulis 2000 Medsulis 2000-2 Medsulis 2000-2 Medsulis 2000-2 Medsulis 2000-2 Medsulis 2015 Mendellis 2015 Mendellis 2015 Mendellis 2015 Monriroto 2018 Moritz 2011 Mueller 2015	0.129	0.183	56	64	1.3%	0.13 [-0.23, 0.49]	<del></del>
kidal 2014 Kukla 2018 Kutriz 2007 Kutriz 2007 Kutriz 2015 Lado-Colesido 2019 Leado-Colesido 2019 Leado-Colesido 2019 Leado-Colesido 2019 Mahncke 2019 Mahncke 2019 Mahncke 2019 Mahncke 2019 Maron Soulo 2018 Maron Soulo 2018 Marsuli 2016 Marsuli 2016 Marsuli 2016 Madalui 2005 Medalii 2000 Medalii 2000 Medalii 2000 Medalii 2000 Medalii 2000 Medalii 2000 Medalii 2015 Mendello 2015 Mendello 2015 Mendello 2015 Mendello 2018 Moriroto 2015	2.009 0.172	0.373	22 25	22 22	0.5%	2.01 [1.28, 2.74] 0.17 [-0.40, 0.75]	
Kurtz 2007 Kurtz 2007 Kurtz 2015 Lado-Colesido 2019 Lea 2013 Lindenmayer 2008 Lu 2012 Mahncke 2019 Mahncke 2019 Mahncke 2019 Marcon 2012 Marcon 2012 Marcon 2010 Marcon 2012 Marcon 2010 Marcon 2011 Marcon 2015 Marcon 2011 Marcon 2015		0.265	18	13	0.5%	0.20 [-0.52, 0.91]	<del></del>
Kurtz 2015 .ado-Colesido 2019 .ee 2013 .indenmayer 2008 .uz 2012 .wa 2019 .wa 2013 .wa 2012 .wa 2013 .wa 2012 .wa 2012-2 .wa 2012-2 .wa 2012-2 .wa 2012-2 .wa 2016 .wa 2018 .wa 2018 .wa 2018 .wa 2018 .wa 2018 .wa 2016 .w	0.531	0.304	23	22	0.6%	0.53 [-0.06, 1.13]	+
Lado-Colesido 2019 Leae 2013 Lindenmayer 2008 Liu 2012 Mahncke 2019 Mahncke 2019 Man 2012 Maron 2018 Maro 2012 Maron 2018 Matsuda 2016 Matsuda 2009 Matsuda 2009 Matsuda 2009 Matsuda 2009 Medalia 2009 Medalia 2000 Medalia 2000 Medalia 2000 Medalia 2000 Medalia 2015 Mendella 2015 Mendella 2015 Mendella 2015 Mendiela 2015 Mendiela 2011 Mueller 2011	-0.03	0.31	23	19	0.6%	-0.03 [-0.64, 0.58]	
Lee 2013 Lindenmayer 2008 Lu 2012 Mahncke 2019 Mak 2013 Man 2012 Man 2012-2 Man 2012-2 Manuson Souto 2018 Matsuda 2018 Matsuda 2018 Matsuda 2018 Medula 2016 Medula 1908 Medula 2000-0 Meddia 2000-0 Meddia 2000-2 Mendela 2015 Mendela 2011 Mueller 2011	0.032 0.889	0.25	32 26	32 24	0.9%	0.03 [-0.46, 0.52] 0.89 [0.31, 1.47]	
Lu 2012 Mahnches 2019 Mak 2013 Man 2012 Man 2012-2 Man 2012-2 Marson Souto 2018 Matsuda 2018 Matsuda 2018 Matsuda 2019 McGurk 2005 McGurk 2016 Medalia 1998 Medalia 2000 Medalia 2000-2 Mendelia 2015 Mendelia 2015 Mendelia 2015 Moriroto 2018 Moriroto 2018 Moriroto 2011 Mueller 2015	0.681	0.266	30	30	0.8%	0.68 [0.16, 1.20]	
Mahncke 2019 Maka 2013 Man 2012 Maron Souto 2018 Marton Souto 2018 Matsuda 2019 Matsuda 2009 McGunk 2009 McGunk 2009 McGunk 2009 McGunk 2009 McGunk 2009 Mcdalia 2000 Mcdalia 2000 Mcdalia 2000 Mcdalia 2015 Mcmical 2015 Mcmical 2015 Mcmical 2011 Mueller 2015	0.158		41	31	0.9%	0.16 [-0.31, 0.62]	<del>-   ·</del>
Mak 2013 Man 2012 Man 2012-2 Man 2012-2 Matusuda 2018 Matsuda 2018 Matsuda 2018 McSurk 2005 McGurk 2006 McGurk 2016 Medalia 1998 Medalia 2000-2 Medalia 2000-2 Mendelia 2015 Morrizo 2011 Mueller 2011	1.067	0.194	60	62	1.2%	1.07 [0.69, 1.45]	
Man 2012 Mar 2018 Marton Souto 2018 Matsuda 2018 Matsuda 2018 Matsuda 2005 McGuirk 2016 McGuirk 2016 Medalia 1998 Medalia 2000-2 Medalia 2000-2 Medniela 2015 Mendelio 2011 Memir 2011 Memir 2011 Memir 2011	-0.117 -0.091	0.169	68 41	73 40	1.4%	-0.12 [-0.45, 0.21]	
Man 2012-2 Marono Souto 2018 Matsuda 2018 Matsuda 2018 McSurk 2005 McGurk 2005 McGurk 2016 Medalia 1998 Medalia 2000 Medalia 2000-2 Medniela 2015 Mendella 2015 Monrizo 2018 Morizo 2011 Mueller 2015		0.222	41 27	40 30	0.8%	-0.09 [-0.53, 0.34] 0.07 [-0.45, 0.58]	<del></del>
Marono Souto 2018 Matsula 2018 Matsula 2009 McGurk, 2016 McGurk, 2016 McGurk, 2016 Medalia 1998 Medalia 2000-2 Medalia 2000-2 Medolia 2010-5 Mendelia 2011 Mendello 2011 Mendello 2011 Mueller, 2011 Mueller, 2011	0.105	0.277	23	30	0.7%	0.10 [-0.44, 0.65]	<del></del>
Matsui 2009 McGurk 2005 McGurk 2016 Medalia 1998 Medalia 1900 Medalia 2000 Medalia 2000-2 Meichenbaum 1973 Memdella 2015 Morimolo 2018 Moritz 2011 Mueller 2015	0.536	0.263	30	30	0.8%	0.54 [0.02, 1.05]	
McGurk 2005 McGurk 2016 McGurk 2016 Medalia 1998 Medalia 2000 Medalia 2000-2 Meichenbaum 1973 Mendella 2015 Morimoto 2018 Moritz 2011 Mueller 2015	0.267 0.079	0.255	31	31 9	0.8%	0.27 [-0.23, 0.77]	
McGurk 2016 Medalia 1998 Medalia 2000 Medalia 20002 Medalia 20002 Meichenbaum 1973 Mendella 2015 Morimoto 2018 Moritz 2011 Mueller 2015 Mueller 2017	0.079	0.45	11 23	21	0.6%	0.08 [-0.80, 0.96] 0.58 [-0.02, 1.19]	
Medalia 1998 Medalia 2000 Medalia 2000-2 Meichenbaum 1973 Mendella 2015 Morimoto 2018 Moritz 2011 Mueller 2015		0.283	28	23	0.7%	0.27 [-0.29, 0.82]	<del></del>
Medalia 2000-2 Meichenbaum 1973 Mendella 2015 Morimoto 2018 Moritz 2011 Mueller 2015	0.223	0.273	27	27	0.8%	0.22 [-0.31, 0.76]	<del>-  </del>
Meichenbaum 1973 Mendella 2015 Morimoto 2018 Moritz 2011 Mueller 2015	-0.006		18	18	0.5%	-0.01 [-0.66, 0.65]	
Mendella 2015 Morimoto 2018 Moritz 2011 Mueller 2015	-0.141 1.637	0.334	18 5	18 5	0.5%	-0.14 [-0.80, 0.51] 1.64 [0.16, 3.11]	
Morimoto 2018 Moritz 2011 Mueller 2015	0.641	0.402	16	11	0.1%	0.64 [-0.15, 1.43]	
Mueller 2015	0.368	0.363	16	15	0.5%	0.37 [-0.34, 1.08]	
	0.733	0.345	18	18	0.5%	0.73 [0.06, 1.41]	
Mueller 2017	0.266	0.161	81	75	1.5%	0.27 [-0.05, 0.58]	
D'Reilly 2019	0.369 0.207	0.259	28 32	33 33	0.8%	0.37 [-0.14, 0.88] 0.21 [-0.28, 0.70]	
Ochoa 2017	0.207	0.213	48	41	1.1%	0.08 [-0.33, 0.50]	
Ojeda 2012		0.224	44	40	1.0%	0.64 [0.20, 1.08]	<del></del>
Omiya 2016	0.096	0.486	8	9	0.3%	0.10 [-0.86, 1.05]	<del></del>
Ostergaard 2014 Pena 2016	0.284	0.186	60 52	57 49	1.3%	0.28 [-0.08, 0.65] 0.35 [-0.05, 0.74]	
Pena 2016 Penades 2006	1.026	0.201	52 20	49 20	0.5%	0.35 [-0.05, 0.74] 1.03 [0.37, 1.69]	
Penades 2013	0.076	0.338	17	18	0.5%	0.08 [-0.59, 0.74]	<del></del>
Penades 2018	1.077	0.256	35	35	0.8%	1.08 [0.58, 1.58]	
Pijnenborg 2019 Pontes 2013		0.196	50 9	55 8	1.2%	-0.17 [-0.55, 0.22] -0.06 [-1.01, 0.89]	
Popova 2014	0.18	0.325	19	19	0.6%	0.18 [-0.46, 0.82]	<del></del>
Popova 2014-2	0.022	0.324	19	19	0.6%	0.02 [-0.61, 0.66]	<del></del>
Puig 2014	0.408 0.376	0.286	25	25 17	0.7%	0.41 [-0.15, 0.97]	
Rakitzi 2016 Ramsay 2017	0.376	0.337	19 14	17	0.5%	0.38 [-0.28, 1.04] 0.15 [-0.63, 0.92]	
Rass 2012	-0.023	0.343	17	17	0.5%	-0.02 [-0.70, 0.65]	
Rass 2012-2	-0.084		17	10	0.4%	-0.08 [-0.87, 0.70]	<del></del>
Reeder 2017 Roberts 2014	0.249 0.124	0.208	46 30	47 30	1.1%	0.25 [-0.16, 0.66] 0.12 [-0.38, 0.63]	
Roberts 2014 Roncone 2004	0.124	0.458	10	10	0.8%	0.12 [-0.38, 0.63]	<del></del>
Royer 2012	0.487	0.307	28	18	0.6%	0.49 [-0.11, 1.09]	+
Sachs 2012	-0.164		20	18	0.6%	-0.16 [-0.80, 0.47]	
Sanchez 2014 Sartory 2005	0.643 0.328		36 21	48 21	1.0%	0.64 [0.20, 1.09] 0.33 [-0.28, 0.94]	
Sevos 2018	0.217	0.361	16	15	0.5%	0.22 [-0.49, 0.92]	<del></del>
Silverstein 2005	0.281	0.366	18	13	0.5%	0.28 [-0.44, 1.00]	<del></del>
Spaulding 1999	0.08		48	42	1.1%	0.08 [-0.33, 0.49]	<del></del>
Tan 2013 Tan 2016	0.925 0.33		36 52	34 52	0.9%	0.93 [0.43, 1.42] 0.33 [-0.06, 0.72]	<u> </u>
Tan 2019	0.192	0.118	196	115	2.0%	0.33 [-0.06, 0.72]	<del> </del>
Tao 2015	0.832	0.225	44	42	1.0%	0.83 [0.39, 1.27]	<del></del>
Fas 2012	0.585		19	26	0.6%	0.58 [-0.02, 1.19]	
Thomas 2018 Ewamley 2008-2012		0.296	24 38	22	0.7%	0.20 [-0.38, 0.78]	
Fwamley 2008-2012 Jeland 2004	0.295 0.326		38 14	31 12	0.9%	0.29 [-0.18, 0.77] 0.33 [-0.45, 1.10]	
Van Oosterhout 2014	-0.283	0.191	51	60	1.2%	-0.28 [-0.66, 0.09]	<del>+</del>
Vaskinn 2019	-0.175	0.317	20	20	0.6%	-0.17 [-0.80, 0.45]	<del></del>
Vauth 2005	0.411		37	35	0.9%	0.41 [-0.06, 0.88]	
Vauth 2005-2 Vidarsdottir 2019		0.251	37 25	28 24	0.9%	0.24 [-0.25, 0.73] 0.32 [-0.25, 0.88]	
Vidarsdottir 2019 Vita 2011a		0.288	25 26	28	0.7%	0.32 [-0.25, 0.88]	
Vita 2011a-2	0.288	0.264	30	28	0.8%	0.29 [-0.23, 0.81]	<del></del>
/ita 2011b	0.361	0.363	16	15	0.5%	0.36 [-0.35, 1.07]	
Volwer 2005	0.624	0.282	28	25	0.7%	0.62 [0.07, 1.18]	-
Wolwer 2005-2 Wykes 1999	0.372 0.177	0.288	24 17	25 16	0.7%	0.37 [-0.19, 0.94]	
Wykes 1999 Wykes 2007a	0.177		17 21	16 19	0.5%	0.18 [-0.51, 0.86] 0.13 [-0.49, 0.75]	
Nykes 2007b	0.211	0.227	39	39	1.0%	0.21 [-0.23, 0.66]	<del>    •   •   •   •   •   •   •   •   •  </del>
Zimmer 2007		0.282	20	36	0.7%	0.40 [-0.15, 0.95]	+
Total (95% CI)			4031	2702	100.0%	0.29 [0.24, 0.34]	🛕

eFigure 2. Forest plot for the effects of cognitive remediation (CR) on global functioning

Study or Subgroup S Ahmed 2015 Ahmed 2015 Ahmed 2018 Aloi 2018 Aloi 2018 Au 2015 Bowie 2012-2 Briki 2014 Bryce 2018 Bryce 2018 Bryce 2018 Cassetta 2019 Cassetta 2019-2 Cassetta 2019-2 Cassetta 2019-1 Cassetta 2019-2 Cassetta 2019-1 Cassetta 2019-2 Fernandez-Gonzalo 2015 Fisher 2015 Fisher 2015 Fisher 2015 Garcia-Fernandez-Gonzalo 2015 Fisher 2015 Garcia-Fernandez-Gonzalo 2019 Garrido 2013 Gomar 2015 Gomar 2015 Gomar 2015 Gomar 2015 Gordon 2018 Hermanutz 1991 Hermanutz 1991 Hermanutz 1991-2 Hogarty 2004 Hooker 2012	0.006 0.444 -0.07 -0.15 0.12 0.049 -0.072 0.71 0.415 0.49 0.205 0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223	0.211 0.238 0.238 0.288 0.268 0.273 0.274 0.219 0.258 0.299 0.258 0.299 0.281 0.317 0.215 0.182 0.299 0.281 0.215 0.299	Total  42 144 45 36 366 255 14 28 28 30 39 22 34 25 30 31 29 21 0 6 35 6 6 50 6	Total  36 14 20 45 35 35 25 27 17 27 27 27 27 27 27 27 27 27 27 27 27 27	1.3% 0.6% 0.88% 1.4% 1.2% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.13% 0.9% 1.11% 0.9% 1.09%	W, Random, 95% CI 0.29 [-0.16, 0.73] 0.01 [-0.73, 0.75] 0.44 [-0.18, 1.06] -0.07 [-0.48, 0.34] -0.15 [-0.62, 0.32] 0.12 [-0.35, 0.59] 0.05 [-0.51, 0.60] -0.07 [-0.60, 0.45] 0.71 [-0.02, 1.44] 0.41 [-0.12, 0.95] 0.49 [-0.05, 1.03] 0.20 [-0.22, 0.63] 0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09] 0.55 [-0.02, 1.08]	IV, Random, 95% CI
Ahuir 2018 Ahuir 2018 Aloi 2018 Au 2015 Bowie 2012 Bowie 2012 Briki 2014 Bryce 2018 Byrne 2013 Cassetta 2019 Cassetta 2019 Casvallaro 2009 D'Amato 2011 D'Souza 2013 Dickinson 2010 Donohoe 2018 Drake 2014 Eack 2009 Farreny 2012 Fernandez-Gonzalo 2015 Fisher 2019 Garcia 2016 Galderisi 2010 Garcia 2003 Garcia-Fernandez 2019 Garcia 2003 Garcia-Fernandez 2019 Garcia 2015 Gomar 2015-2 Gordon 2018 Hermanutz 1991 Hermanutz 1991 Hermanutz 1991 Hogarty 2004 Hooker 2012	0.006 0.444 -0.07 -0.15 0.12 0.049 -0.072 0.71 0.415 0.49 0.205 0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223	0.378 0.316 0.211 0.238 0.238 0.283 0.268 0.273 0.274 0.219 0.258 0.292 0.258 0.295 0.260 0.292 0.261 0.215 0.182 0.295	14 21 45 36 25 29 14 28 28 28 20 30 31 29 21 0 6 30 6 30 6 25 5 0 0 25 5 0 0 0 0 0 0 0 0 0 0 0 0 0	14 20 45 35 35 25 27 17 27 27 36 38 23 27 30 27 24	0.6% 0.8% 1.4% 1.2% 1.0% 1.0% 0.6% 1.0% 1.3% 1.3% 0.9% 1.1% 1.0%	0.01 [-0.73, 0.75] 0.44 [-0.18, 1.06] 0.07 [-0.48, 0.34] -0.15 [-0.62, 0.32] 0.12 [-0.35, 0.59] 0.05 [-0.51, 0.60] -0.07 [-0.60, 0.41] 0.41 [-0.12, 0.95] 0.49 [-0.05, 1.03] 0.20 [-0.22, 0.63] 0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Noi 2018 Au 2015 Au 2015 Sowie 2012 Sowie 2018 Syrne 2018 Syrne 2018 Syrne 2019 Cassetta 2019 Cassetta 2019 Cassetta 2019 Cassetta 2019 Cassetta 2019 Constance 2011 Constance 2011 Constance 2013 Constance 2013 Constance 2014 Caste 2009 Carrier 2014 Caste 2009 Carrier 2015 Carrier 2016 Carrier 2013 Carrier 2015 Carrier 2019 Carrier 2015 Comar	0.444 -0.07 -0.15 0.12 0.049 -0.072 0.71 0.415 0.49 0.205 0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223	0.316 0.211 0.238 0.283 0.268 0.373 0.274 0.219 0.228 0.295 0.26 0.295 0.26 0.295 0.26 0.295 0.26 0.295 0.26 0.295 0.26 0.295 0.26 0.295 0.26 0.295 0.26 0.295 0.26 0.26 0.27 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26	21 45 36 36 25 29 14 28 50 39 22 23 4 25 30 31 29 21 0 63 50 26	20 45 35 35 25 27 17 27 36 38 23 27 30 30 27 24	0.8% 1.4% 1.2% 1.0% 1.0% 0.6% 1.0% 1.3% 1.3% 0.9% 1.1% 1.0%	0.44 [-0.18, 1.06] -0.07 [-0.48, 0.34] -0.15 [-0.62, 0.32] 0.12 [-0.35, 0.59] 0.05 [-0.51, 0.60] -0.07 [-0.60, 0.45] 0.71 [-0.02, 1.44] 0.41 [-0.12, 0.95] 0.49 [-0.05, 1.03] 0.20 [-0.22, 0.63] 0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Au 2015 Sowie 2012 Sowie 2012 Sowie 2012 Sirki 2014 Siryce 2018 Styree 2018 Styree 2013 Cassetta 2019 Cassetta 2019 Cassetta 2019 Cassetta 2019 Cassetta 2010 D'Amato 2011 D'Souza 2013 Dickinson 2010 Donohoe 2018 Drake 2014 Cack 2009 Carreny 2012 Carreny 2012 Carreny 2012 Carreny 2016 Carreny 2017 Carreny 2018 Carreny 2018 Carreny 2018 Carreny 2018 Carreny 2019 Carren	-0.07 -0.15 0.12 0.049 -0.072 0.71 0.415 0.49 0.205 0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 4 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.233	0.211 0.238 0.238 0.288 0.268 0.273 0.274 0.219 0.258 0.299 0.258 0.299 0.281 0.317 0.215 0.182 0.299 0.281 0.215 0.299	45 36 36 25 29 14 28 28 25 30 31 29 21 0 63 50 26	45 35 35 25 27 17 27 36 38 23 27 30 30 27 24	1.4% 1.2% 1.2% 1.0% 1.0% 0.6% 1.0% 1.3% 0.9% 1.1% 0.9% 1.1%	-0.07 [-0.48, 0.34] -0.15 [-0.62, 0.32] 0.12 [-0.35, 0.59] 0.05 [-0.51, 0.60] -0.07 [-0.60, 0.45] 0.71 [-0.02, 1.44] 0.41 [-0.12, 0.95] 0.49 [-0.05, 1.03] 0.20 [-0.22, 0.63] 0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] 0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Sowie 2012 Sowie 2012-2 Striki 2014 Stryce 2018 Styrne 2013 Sassetta 2019 Sassetta 2019-2 Sasvallaro 2009 S'Amato 2011 Social 2019 Social 2013 Sickinson 2010 Sonake 2014 Sickinson 2010 Sonake 2014 Sickinson 2010 Sonake 2014 Sickinson 2010 Sonake 2014 Sickinson 2016 Sisher 2009-2016 Sisher 2009-2016 Sisher 2015 Sisden 2015 Sarcia 2003 Sarcia 2003 Sarcia-Fernandez 2019 Sarrido 2013 Somar 2015	-0.15 0.12 0.049 -0.072 0.71 0.415 0.49 0.205 0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.233	0.238 0.238 0.268 0.373 0.274 0.219 0.229 0.258 0.275 0.26 0.291 0.317 0.215 0.182 0.245 0.291 0.451 0.219	36 36 25 29 14 28 50 39 22 34 25 30 31 29 21 0 63 50 26	35 35 25 27 17 27 36 38 23 27 30 30 27 24	1.2% 1.2% 1.0% 1.0% 0.6% 1.0% 1.3% 1.3% 0.9% 1.1% 1.0%	-0.15 [-0.62, 0.32] 0.12 [-0.35, 0.59] 0.05 [-0.51, 0.60] 0.07 [-0.60, 0.40] 0.41 [-0.12, 0.95] 0.49 [-0.05, 1.05] 0.20 [-0.22, 0.63] 0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] 0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Sowie 2012-2 Spriki 2014 Spriki 2014 Spriki 2018 Spriki 2018 Spriki 2018 Spriki 2019 Jassetta 2019 Jassetta 2019 Jassetta 2019 Jassetta 2010 John 2011 John 2011 John 2011 John 2011 John 2018 John 2010 John 2018 John 2019 John	0.12 0.049 -0.072 0.71 0.415 0.49 0.205 0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223 0.224	0.238 0.268 0.273 0.274 0.274 0.219 0.228 0.299 0.258 0.275 0.26 0.299 0.281 0.317 0.215 0.182 0.245 0.297 0.2451 0.219	36 25 29 14 28 28 50 39 22 34 25 30 31 29 21 0 63 50 26	35 25 27 17 27 27 36 38 23 27 30 30 27 24 19	1.2% 1.0% 1.0% 0.6% 1.0% 1.3% 0.9% 1.1% 1.0% 1.1% 0.9% 1.0%	0.12 [-0.35, 0.59] 0.05 [-0.51, 0.60] 0.07 [-0.60, 0.45] 0.71 [-0.02, 1.44] 0.41 [-0.12, 0.95] 0.49 [-0.05, 1.03] 0.20 [-0.22, 0.63] 0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] 0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Briki 2014 Bryte 2018 Bryte 2018 Bryte 2013 Bassetta 2019 Bassetta 2011 Bassetta 2010 Bassetta 2010 Bassetta 2014 Basset 2009 Basset 2014 Basset 2009 Basset 2014 Basset 2009 Basset 2015 Basset 2009 Basset 2016 Basset 2019 Basset 2016 Bass	0.049 -0.072 0.71 0.415 0.49 0.205 0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223 0.223	0.283 0.268 0.373 0.273 0.274 0.219 0.228 0.299 0.258 0.275 0.26 0.299 0.281 0.317 0.215 0.182 0.245 0.297 0.2451 0.219	25 29 14 28 28 50 39 22 34 25 30 31 29 21 0 63 50 26	25 27 17 27 27 36 38 23 27 30 30 27 24 19	1.0% 1.0% 0.6% 1.0% 1.3% 0.9% 1.1% 1.0% 1.1% 0.9% 1.0%	0.05 [-0.51, 0.60] -0.07 [-0.60, 0.45] 0.71 [-0.02, 1.44] 0.41 [-0.12, 0.95] 0.49 [-0.05, 1.03] 0.20 [-0.22, 0.63] 0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Styce 2018 Styrne 2013 Assestita 2019 Assestita 2019 Assestita 2019 Assestita 2019 Asselta 2019 Availlaro 2009 Availlaro 2009 Availlaro 2010 Availlaro 2010 Availlaro 2010 Availlaro 2018 Availlaro 2014 Availlaro 2014 Availlaro 2015 Availlaro 2015 Availlaro 2016 Availlaro 2016 Availlaro 2016 Availlaro 2016 Availlaro 2018	-0.072 0.71 0.415 0.49 0.205 0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.233	0.268 0.373 0.274 0.219 0.228 0.299 0.258 0.275 0.26 0.299 0.281 0.317 0.215 0.182 0.245 0.245 0.245	29 14 28 28 50 39 22 34 25 30 31 29 21 0 63 50 26	27 17 27 27 36 38 23 27 30 30 27 24 19 0	1.0% 0.6% 1.0% 1.3% 1.3% 0.9% 1.1% 1.0% 1.1% 0.9% 1.0%	-0.07 [-0.60, 0.45] 0.71 [-0.02, 1.44] 0.41 [-0.12, 0.95] 0.49 [-0.05, 1.03] 0.20 [-0.22, 0.63] 0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Byrne 2013 Cassetta 2019 Cassetta 2019 Cassetta 2019 Cassetta 2019 Cavallaro 2009 Cymato 2011 CySouza 2013 Cickinson 2010 Conohoe 2018 Corake 2014 Carke 2014 Carke 2014 Carke 2014 Carke 2015 Cermandez-Gonzalo 2019 Cermandez-Gonzalo 2015 Cermandez-Gonzalo 2019 Cermandez-Gonzalo 2015 Cermandez-Gonza	0.71 0.415 0.49 0.205 0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.234	0.373 0.274 0.219 0.228 0.299 0.258 0.275 0.26 0.299 0.281 0.317 0.215 0.182 0.245 0.297 0.451 0.219	14 28 28 50 39 22 34 25 30 31 29 21 0 63 50 26	17 27 27 36 38 23 27 30 30 27 24 19	0.6% 1.0% 1.3% 1.3% 0.9% 1.1% 1.0% 1.1% 0.9% 1.0%	0.71 [-0.02, 1.44] 0.41 [-0.12, 0.95] 0.49 [-0.05, 1.03] 0.20 [-0.22, 0.63] 0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Cassetta 2019 Cassetta 2019-2 Cavallaro 2009 Cassetta 2019-2 Cavallaro 2009 Cassetta 2019 Cassetta 2011 Coloroboe 2018 Corace 2014 Casce 2009 Carreny 2012 Carrandez-Gonzalo 2015 Casce 2009 Carrandez-Gonzalo 2015 Casce 2009 Carrandez-Gonzalo 2015 Casce 2009 Casce 2016 Casce 20016 Casce 2003 Casce 2003 Casce 2003 Casce 2003 Casce 2015 Comar	0.415 0.49 0.205 0.073 0.137 -0.183 0.488 -0.323 1.508 0.533 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.233	0.273 0.274 0.219 0.228 0.299 0.258 0.275 0.26 0.299 0.281 0.317 0.215 0.245 0.297 0.451 0.219	28 28 50 39 22 34 25 30 31 29 21 0 63 50 26	27 27 36 38 23 27 30 30 27 24 19	1.0% 1.0% 1.3% 1.3% 0.9% 1.1% 1.0% 1.1% 0.9% 1.0%	0.41 [-0.12, 0.95] 0.49 [-0.05, 1.03] 0.20 [-0.22, 0.63] 0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Cassetta 2019-2 Cavallaro 2009 D'Amato 2011 D'Souza 2013 Dickinson 2010 Donohoe 2018 Drake 2014 Eack 2009 Earreny 2012 Fernandez-Gonzalo 2015 Fisher 2009-2016 Fisher 2015 Fisisdron 2016 Galderisi 2010 Garcia 2003 Garcia 2003 Garcia 2015 Gordon 2018 Fernandez-Gonzalo 2019 Fisisdron 2016 Gardon 2018 Fisher 2015 Fisher 2010 Fisher	0.49 0.205 0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223	0.274 0.219 0.228 0.299 0.258 0.275 0.26 0.299 0.281 0.317 0.215 0.182 0.245 0.297 0.451 0.219	28 50 39 22 34 25 30 31 29 21 0 63 50 26	27 36 38 23 27 30 30 27 24 19	1.0% 1.3% 1.3% 0.9% 1.1% 1.0% 1.1% 0.9% 1.0%	0.49 [-0.05, 1.03] 0.20 [-0.22, 0.63] 0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Cavallaro 2009  Cavallaro 2011  Cavallaro 2011  Cavallaro 2011  Cavallaro 2013  Conchoe 2018  Carke 2014  Carke 2014  Carke 2009  Carreny 2012  Carreny 2012  Carreny 2015  Carreny 2016  Carreny 2017  Carreny 2018  Carreny 2018	0.205 0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223	0.219 0.228 0.299 0.258 0.275 0.26 0.299 0.281 0.317 0.215 0.182 0.245 0.297 0.451 0.219	50 39 22 34 25 30 31 29 21 0 63 50 26	36 38 23 27 30 30 27 24 19	1.3% 1.3% 0.9% 1.1% 1.0% 1.1% 0.9% 1.0%	0.20 [-0.22, 0.63] 0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
D'Amato 2011 D'Amato 2011 D'Amato 2013 Dickinson 2010 Donohoe 2018 D'arke 2014 Eack 2009 Earreny 2012 Ermandez-Gonzalo 2015 Eisher 2009-2016 Eisher 2015 Eisdon 2016 Balderisi 2010 Barcia 2003 Barcia-Fernandez 2019 Barrido 2013 Gomar 2015 Gomar 2015 Gomar 2015 Hermanutz 1991 Hermanutz 1991 Hermanutz 1991-2 Hoogarty 2004 Hooker 2012	0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 1.077 -0.038 0.233	0.228 0.299 0.258 0.275 0.26 0.299 0.281 0.317 0.215 0.182 0.245 0.297 0.451 0.219	39 22 34 25 30 31 29 21 0 63 50 26	38 23 27 30 30 27 24 19	1.3% 0.9% 1.1% 1.0% 1.1% 0.9% 1.0%	0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
D'Souza 2013 Dickinson 2010 Donohoe 2018 Drake 2014 Earke 2014 Earke 2019 Earreny 2012 Earneny 2015 Eisher 209-2016 Eisher 2015 Eisher 2016 Eisher 2016 Eisher 2010 Eisher 201	0.073 0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 1.077 -0.038 0.233	0.228 0.299 0.258 0.275 0.26 0.299 0.281 0.317 0.215 0.182 0.245 0.297 0.451 0.219	22 34 25 30 31 29 21 0 63 50 26	23 27 30 30 27 24 19 0	0.9% 1.1% 1.0% 1.1% 0.9% 1.0%	0.07 [-0.37, 0.52] 0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
D'Souza 2013 Dickinson 2010 Donohoe 2018 Drake 2014 Earke 2014 Earke 2019 Earreny 2012 Earneny 2015 Eisher 209-2016 Eisher 2015 Eisher 2016 Eisher 2016 Eisher 2010 Eisher 201	0.137 -0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223	0.299 0.258 0.275 0.26 0.299 0.281 0.317 0.215 0.182 0.245 0.297 0.451 0.219	22 34 25 30 31 29 21 0 63 50 26	23 27 30 30 27 24 19 0	0.9% 1.1% 1.0% 1.1% 0.9% 1.0%	0.14 [-0.45, 0.72] -0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Dickinson 2010 Dickinson 2018 Drake 2014 Eack 2009 Earreny 2012 Eernandez-Gonzalo 2015 Eisher 2009-2016 Eisher 2016 Eisher 2018 Eisher 201	-0.183 0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223 0.223	0.258 0.275 0.26 0.299 0.281 0.317 0.215 0.182 0.245 0.297 0.451 0.219	34 25 30 31 29 21 0 63 50 26	27 30 30 27 24 19 0	1.1% 1.0% 1.1% 0.9% 1.0%	-0.18 [-0.69, 0.32] 0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Donohoe 2018 Drake 2014 Eack 2009 Farreny 2012 Fernandez-Gonzalo 2015 Fisher 2009-2016 Fisher 2009-2016 Fisher 2015 Fiszdon 2016 Fisher 2010 Fisher 20	0.488 -0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223	0.275 0.26 0.299 0.281 0.317 0.215 0.182 0.245 0.297 0.451 0.219	25 30 31 29 21 0 63 50 26	30 30 27 24 19	1.0% 1.1% 0.9% 1.0%	0.49 [-0.05, 1.03] -0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	
Orake 2014 Lack 2009 Larreny 2012 Larreny 2012 Larreny 2016 Larreny 2019 Larreny 2019 Larreny 2019 Larreny 2015 Larreny 2015 Larreny 2015 Larreny 2018 Larreny 2015 Larreny 2016 Larreny 20	-0.323 1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223	0.26 0.299 0.281 0.317 0.215 0.182 0.245 0.297 0.451 0.219	30 31 29 21 0 63 50 26	30 27 24 19 0	1.1% 0.9% 1.0%	-0.32 [-0.83, 0.19] 1.51 [0.92, 2.09]	<del>-+</del> _
Eack 2009 Farreny 2012 Fernandez-Gonzalo 2015 Fisher 2009-2016 Fisher 2016 Fisher 2016 Fisher 2016 Fisher 2016 Fisher 2018 Fisher 2019 Fis	1.508 0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223	0.299 0.281 0.317 0.215 0.182 0.245 0.297 0.451 0.219	31 29 21 0 63 50 26	27 24 19 0	0.9% 1.0%	1.51 [0.92, 2.09]	·
Farreny 2012 Fernandez-Gonzalo 2015 Fisher 2009-2016 Fisher 2015 Fiszdon 2016 Garcia 2003 Garcia 2003 Garcia-Fernandez 2019 Garrido 2013 Gomar 2015 Gomar 2015 Gomar 2015 Fordon 2018 Fernanutz 1991 Fernanutz 1991 Fernanutz 1991-2 Flogarty 2004 Flooker 2012	0.53 0.074 -0.166 -0.066 0.026 0.754 0.251 1.077 -0.038 0.223	0.281 0.317 0.215 0.182 0.245 0.297 0.451 0.219	29 21 0 63 50 26	24 19 0	1.0%		
ermandez-Gonzalo 2015 Fisher 2009-2016 Fisher 2015 Fisher 2015 Fiszdon 2016 Galderisi 2010 Sarcia 2003 Sarcia-Fernandez 2019 Sarrido 2013 Somar 2015 Somar 2015-2 Sordon 2018 Hermanutz 1991 Hermanutz 1991-2 Hogarty 2004 Hooker 2012	0.074 -0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223	0.317 0.215 0.182 0.245 0.297 0.451 0.219	21 0 63 50 26	19 0		0.53 [-0.02 1.08]	
Fisher 2009-2016 Fisher 2015 Fiszdon 2016 Salderisi 2010 Sarcia 2003 Sarcia-Fernandez 2019 Sarrido 2013 Somar 2015 Somar 2015 Somar 2015 Fernandez 2019 Fernandez 2019 Fernandez 2019 Fernandez 2019 Fernandez 2015 Fernandez 2015 Fernandez 1991	-0.166 -0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223	0.215 0.182 0.245 0.297 0.451 0.219	0 63 50 26	0	0.8%	0.00 [-0.02, 1.00]	
Fisher 2015 Fiszdon 2016 Galderisi 2010 Garcia 2003 Garcia-Fernandez 2019 Garrido 2013 Gomar 2015 Gomar 2015 Gordon 2018 Hermanutz 1991 Hermanutz 1991-2 Hogarty 2004 Hooker 2012	-0.066 0.026 0.754 0.251 0.041 1.077 -0.038 0.223 0.244	0.182 0.245 0.297 0.451 0.219	63 50 26	-		0.07 [-0.55, 0.70]	<del></del>
riszdon 2016 Salderisi 2010 Sarcia 2003 Sarcia-Fernandez 2019 Sarrido 2013 Somar 2015 Somar 2015-2 Sordon 2018 Hermanutz 1991 Hermanutz 1991-2 Hogarty 2004 Hooker 2012	0.026 0.754 0.251 0.041 1.077 -0.038 0.223	0.245 0.297 0.451 0.219	50 26	58	1.4%	-0.17 [-0.59, 0.26]	<del></del>
Salderisi 2010 Sarcia - 2003 Sarcia - 2019 Sarrido 2013 Sarrido 2013 Somar 2015 Somar 2015-2 Sordon 2018 Hermanutz 1991 Hermanutz 1991-2 Hogarty 2004 Hooker 2012	0.754 0.251 0.041 1.077 -0.038 0.223 0.244	0.297 0.451 0.219	26		1.6%	-0.07 [-0.42, 0.29]	<del></del>
Galderisi 2010 Sarcia 2003 Sarcia-Fernandez 2019 Sarrido 2013 Somar 2015 Somar 2015-2 Sordon 2018 Hermanutz 1991 Hermanutz 1991-2 Hogarty 2004 Hooker 2012	0.754 0.251 0.041 1.077 -0.038 0.223 0.244	0.297 0.451 0.219	26	25	1.2%	0.03 [-0.45, 0.51]	<del></del>
Garcia 2003 Jarcia-Fernandez 2019 Jarrido 2013 Jarrido 2013 Jarrido 2015 Jarrido 2015 Jarrido 2015 Jarrido 2018	0.251 0.041 1.077 -0.038 0.223 0.244	0.451 0.219		23	0.9%	0.75 [0.17, 1.34]	
Garcia-Fernandez 2019 Garrido 2013 Gomar 2015 Gomar 2015-2 Gordon 2018 Hermanutz 1991 Hermanutz 1991-2 Hogarty 2004 Hooker 2012	0.041 1.077 -0.038 0.223 0.244	0.219	11	9	0.5%	0.25 [-0.63, 1.13]	
Garrido 2013 Gomar 2015 Gomar 2015-2 Gordon 2018 Hermanutz 1991 Hermanutz 1991-2 Hogarty 2004 Hooker 2012	1.077 -0.038 0.223 0.244						
Gomar 2015 Gomar 2015-2 Gordon 2018 Hermanutz 1991 Hermanutz 1991-2 Hogarty 2004 Hooker 2012	-0.038 0.223 0.244		36	50	1.3%	0.04 [-0.39, 0.47]	
Gomar 2015-2 Gordon 2018 Hermanutz 1991 Hermanutz 1991-2 Hogarty 2004 Hooker 2012	0.223 0.244		31	18	0.8%	1.08 [0.46, 1.70]	
Gordon 2018 Hermanutz 1991 Hermanutz 1991-2 Hogarty 2004 Hooker 2012	0.244		39	36	1.2%	-0.04 [-0.49, 0.41]	
Hermanutz 1991 Hermanutz 1991-2 Hogarty 2004 Hooker 2012			32	36	1.2%	0.22 [-0.26, 0.70]	<del> </del>
Hermanutz 1991-2 Hogarty 2004 Hooker 2012	0.000	0.351	18	15	0.7%	0.24 [-0.44, 0.93]	<del>-   •</del>
logarty 2004 looker 2012		0.447	10	10	0.5%	-0.09 [-0.96, 0.79]	+
Hogarty 2004 Hooker 2012	-0.099	0.448	10	10	0.5%	-0.10 [-0.98, 0.78]	<del></del>
Hooker 2012	0.3	0.196	61	46	1.5%	0.30 [-0.08, 0.68]	+
		0.429	11	11	0.5%	-0.29 [-1.14, 0.55]	<del></del>
	0.382		19	19	0.8%	0.38 [-0.26, 1.02]	+-
Horan 2011-2				19		0.37 [-0.30, 1.04]	<del> </del>
	0.372		16		0.7%		
Horan 2011-3	0.235 0.143	0.353	14	19	0.7%	0.23 [-0.46, 0.93]	
Horan 2018			41	47	1.4%	0.14 [-0.28, 0.56]	
Horan 2018-2	-0.026		47	47	1.4%	-0.03 [-0.43, 0.38]	
lwata 2017	0.548	0.272	28	28	1.0%	0.55 [0.01, 1.08]	
Jahshan 2019	0.202	0.296	29	19	0.9%	0.20 [-0.38, 0.78]	<del></del>
Jahshan 2019-2	0.195	0.286	35	19	1.0%	0.20 [-0.37, 0.76]	<del></del>
Kanie 2019	0.11	0.25	32	32	1.1%	0.11 [-0.38, 0.60]	<del></del>
Kantrowitz 2016	0.2	0.183	56	64	1.6%	0.20 [-0.16, 0.56]	+
Katsumi 2019		0.304	22	22	0.9%	0.34 [-0.26, 0.93]	<del></del>
Keefe 2012		0.292	25	22	0.9%	0.09 [-0.49, 0.66]	
Klingberg 2011	-0.204		99	99	2.0%	-0.20 [-0.48, 0.08]	<u> </u>
Kukla 2018		0.299	23	22	0.9%	0.24 [-0.35, 0.83]	'
Kurtz 2015	0.134	0.25	32	32	1.1%	0.13 [-0.36, 0.62]	<del></del>
Lee 2013	0.736	0.236	30	30	1.2%	0.74 [0.27, 1.20]	_ <del></del>
Lu 2012	0.732	0.187	60	62	1.6%	0.73 [0.37, 1.10]	_ <del></del>
Mahncke 2019	0.02	0.169	68	73	1.7%	0.02 [-0.31, 0.35]	<del></del>
Matsuda 2018	0.095		31	31	1.1%	0.10 [-0.40, 0.59]	<del></del>
Medalia 2000	-0.577		18	18	0.7%	-0.58 [-1.25, 0.09]	<del></del>
Medalia 2000-2	1.486		18	18	0.6%	1.49 [0.74, 2.23]	
Mendella 2015			16				
	0.043			11	0.6%	0.04 [-0.73, 0.81]	
Morimoto 2018	0.15	0.36	16	15	0.7%	0.15 [-0.56, 0.86]	
Mueller 2015	0.27		81	75	1.8%	0.27 [-0.05, 0.59]	T-
Mueller 2017	-0.094	0.257	28	33	1.1%	-0.09 [-0.60, 0.41]	<del></del>
O'Reilly 2019	-0.042	0.248	32	33	1.1%	-0.04 [-0.53, 0.44]	
Ochoa 2017	0.013	0.213	48	41	1.4%	0.01 [-0.40, 0.43]	
Ojeda 2012	0.063	0.219	44	40	1.3%	0.06 [-0.37, 0.49]	<del></del>
Omiya 2016	0.813		8	9	0.4%	0.81 [-0.18, 1.81]	<del></del>
Ostergaard 2014	-0.007		60	57	1.6%	-0.01 [-0.37, 0.36]	<del></del>
Pena 2016	0.443		52	49	1.4%	0.44 [0.05, 0.84]	<u> </u>
Penades 2006	0.737		20	20	0.8%	0.74 [0.10, 1.38]	<u> </u>
Penades 2018	0.454		35	35	1.2%	0.45 [-0.02, 0.93]	
Pijnenborg 2019	-0.19		50	55	1.5%	-0.19 [-0.57, 0.19]	<u>_</u> T
Popova 2014	0.152		19	19	0.8%	0.15 [-0.48, 0.79]	<del></del>
Popova 2014-2	0.276	0.326	19	19	0.8%	0.28 [-0.36, 0.91]	<del>                                     </del>
Puig 2014	0.422	0.286	25	25	1.0%	0.42 [-0.14, 0.98]	+
Rakitzi 2016	0.196		19	17	0.8%	0.20 [-0.46, 0.85]	<del>-   •</del>
Ramsay 2017	-0.319		14	12	0.6%	-0.32 [-1.10, 0.46]	<del></del>
Reeder 2017	0.633		46	47	1.4%	0.63 [0.22, 1.05]	<del></del>
Roberts 2014	0.077		30	30	1.1%	0.08 [-0.43, 0.58]	<del></del>
Sachs 2012	0.306		20	18	0.8%	0.31 [-0.33, 0.95]	<del>                                     </del>
Sanchez 2014	0.526		36	48	1.3%	0.53 [0.09, 0.97]	
Silverstein 2005	0.342		18	13	0.7%	0.34 [-0.38, 1.06]	
Silverstein 2009	0.471	0.23	44	35	1.3%	0.47 [0.02, 0.92]	
Spaulding 1999	0.454	0.214	48	42	1.4%	0.45 [0.03, 0.87]	<del></del>
Tan 2016	0.366	0.198	52	52	1.5%	0.37 [-0.02, 0.75]	<del>  -</del>
Γan 2019	0.019	0.117	196	115	2.2%	0.02 [-0.21, 0.25]	+
Гаs 2012	0.677		19	26	0.8%	0.68 [0.07, 1.29]	
Twamley 2008-2012	0.121		38	31	1.2%	0.12 [-0.35, 0.60]	<del></del>
Jeland 2004	0.121		14	12	0.6%	0.36 [-0.42, 1.14]	<del></del>
/askinn 2019	-0.054		20	20	0.8%	-0.05 [-0.67, 0.57]	
Ventura 2019	0.441		39	41	1.3%	0.44 [-0.00, 0.88]	-
/idarsdottir 2019	-0.029	0.286	25	24	1.0%	-0.03 [-0.59, 0.53]	<del></del>
/ita 2011a	0.418		26	28	1.0%	0.42 [-0.12, 0.96]	+
Vita 2011a-2	0.818		30	28	1.0%	0.82 [0.28, 1.36]	
Vita 2011a-2	0.511		16	15	0.7%		+
						0.51 [-0.21, 1.23]	
Nykes 1999	0.284	0.35	17	16	0.7%	0.28 [-0.40, 0.97]	
Wykes 2007a	0.011		21	19	0.8%	0.01 [-0.61, 0.63]	
Nykes 2007b	-0.08		39	39	1.3%	-0.08 [-0.52, 0.36]	<del></del>
Zimmer 2007	0.766	0.288	20	36	0.9%	0.77 [0.20, 1.33]	<del></del>
Total (95% CI)			3140	2951	100.0%	0.22 [0.16, 0.29]	♦
Heterogeneity: Tau <sup>2</sup> = 0.04; Ch	hi² = 150 20 df = 04 /D	= 0.000					-2 -1 0 1 2

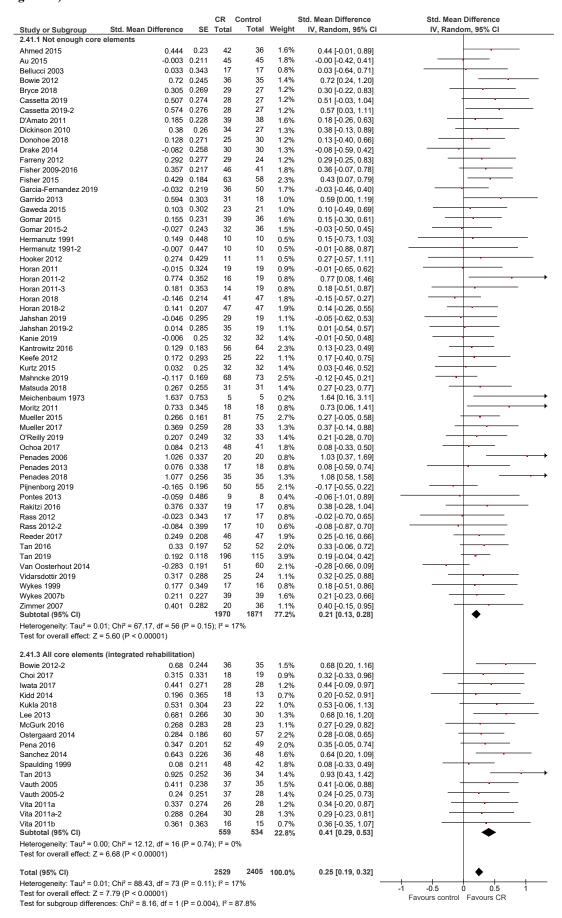
eFigure 3. Subgroup analysis for the effects of interventions including all core elements of cognitive remediation (global cognition)

Study or Subgroup Std. Mean Dif	loronoo	SE	CR (	Control Total	Weight	Std. Mean Difference IV. Random, 95% CI	Std. Mean Difference IV, Random, 95% CI
2.37.1 Not enough core elements						, ,	IV, Random, 95% CI
Ahmed 2015 Ahuir 2018		0.23 0.381	42 14	36 14	1.0% 0.4%	0.44 [-0.01, 0.89] 0.37 [-0.38, 1.11]	
Au 2015 Bell 2001	-0.003 0.516	0.211	45 31	45 34	1.1%	-0.00 [-0.42, 0.41] 0.52 [0.02, 1.01]	
Bellucci 2003 Bowie 2012	0.033	0.343	17 36	17 35	0.5%	0.03 [-0.64, 0.71] 0.72 [0.24, 1.20]	
Bryce 2018 Burda 1994	0.305	0.269	29 40	27 29	0.8%	0.30 [-0.22, 0.83] 0.56 [0.07, 1.05]	
Byrne 2013 Cassetta 2019	0.52	0.367	14	17 27	0.5%	0.52 [-0.20, 1.24]	
Cassetta 2019-2	0.574	0.276	28	27	0.7%	0.57 [0.03, 1.11]	
D'Amato 2011 D'Souza 2013	0.185 0.076	0.228 0.298	39 22	38 23	1.0% 0.7%	0.18 [-0.26, 0.63] 0.08 [-0.51, 0.66]	
Dickinson 2010 Donohoe 2018	0.38	0.26	34 25	27 30	0.8%	0.38 [-0.13, 0.89]	
Drake 2014 Fan 2017	-0.082 0.005	0.258	30 12	30 11	0.8%	-0.08 [-0.59, 0.42] 0.01 [-0.81, 0.82]	
Farreny 2012 Fernandez-Gonzalo 2015	0.292	0.277	29 21	24 19	0.7%	0.29 [-0.25, 0.83] 0.20 [-0.42, 0.82]	
Fisher 2009-2016	0.357	0.217	46	41	1.1%	0.36 [-0.07, 0.78]	+==
Fisher 2015 Fiszdon 2016	0.429	0.184	63 50	58 25	1.3% 0.9%	0.43 [0.07, 0.79] 0.25 [-0.23, 0.73]	+==
Garcia 2003 Garcia-Fernandez 2019	-0.124 -0.032	0.45	11 36	9 50	0.3%	-0.12 [-1.01, 0.76] -0.03 [-0.46, 0.40]	
Garrido 2013 Gawerla 2015	0.594	0.303	31 23	18 21	0.6%	0.59 [0.00, 1.19]	
Gharaelpour 2012 Gohar 2013	0.694 0.076	0.318	21 22	21 20	0.6%	0.69 [0.07, 1.32]	
Gomar 2015	0.155	0.231	39	36	1.0%	0.15 [-0.30, 0.61]	<del></del>
Gomar 2015-2 Gordon 2018	-0.027 0.225	0.243 0.351	32 18	36 15	0.9% 0.5%	-0.03 [-0.50, 0.45] 0.23 [-0.46, 0.91]	
Greig 2007 Habel 2010	0.186	0.237	38 10	34 10	0.9%	0.19 [-0.28, 0.65] 0.74 [-0.17, 1.65]	<del></del>
Hegde 2012 Hermanutz 1991	0.914	0.383	13	18 10	0.4%	0.91 [0.16, 1.66] 0.15 [-0.73, 1.03]	
Hermanutz 1991-2	-0.007	0.447	10	10	0.3%	-0.01 [-0.88, 0.87]	
Hodge 2010 Hooker 2012	0.226	0.319	22 11	18 11	0.6%	0.23 [-0.40, 0.85] 0.27 [-0.57, 1.11]	
Horan 2009 Horan 2011	-0.183 -0.015	0.36	15 19	16 19	0.5%	-0.18 [-0.89, 0.52] -0.01 [-0.65, 0.62]	
Horan 2011-2 Horan 2011-3	0.774	0.352	16 14	19 19	0.5%	0.77 [0.08, 1.46] 0.18 [-0.51, 0.87]	
Horan 2018	-0.146	0.214	41	47	1.1%	-0.15 [-0.57, 0.27]	<del></del> _
Horan 2018-2 Jahshan 2019	0.141 -0.046	0.207 0.295	47 29	47 19	1.1% 0.7%	0.14 [-0.26, 0.55] -0.05 [-0.62, 0.53]	
Jahshan 2019-2 Kanie 2019	0.014	0.285	35 32	19 32	0.7%	0.01 [-0.54, 0.57] -0.01 [-0.50, 0.48]	
Kantrowitz 2016 Katsumi 2019	0.129	0.183	56 22	64 22	1.3%	0.13 [-0.23, 0.49]	+-
Keefe 2012	0.172	0.293	25	22	0.7%	0.17 [-0.40, 0.75]	
Kurtz 2007 Kurtz 2015	-0.03 0.032	0.31	23 32	19 32	0.6%	-0.03 [-0.64, 0.58] 0.03 [-0.46, 0.52]	<del></del>
Lado-Colesido 2019 Lu 2012	0.889 1.067	0.297	26 60	24 62	0.7%	0.89 [0.31, 1.47] 1.07 [0.69, 1.45]	
Mahncke 2019 Mak 2013	-0.117 -0.091	0.169	68 41	73 40	1.4%	-0.12 [-0.45, 0.21] -0.09 [-0.53, 0.34]	
Man 2012 Man 2012-2	0.065	0.265	27 23	30 30	0.8%	0.07 [-0.45, 0.58]	
Marono Souto 2018	0.536	0.263	30	30	0.8%	0.10 [-0.44, 0.65] 0.54 [0.02, 1.05]	<u> </u>
Matsuda 2018 Matsui 2009	0.267	0.255 0.45	31 11	31 9	0.8%	0.27 [-0.23, 0.77] 0.08 [-0.80, 0.96]	
Medalia 1998 Medalia 2000	0.223	0.273	27 18	27 18	0.8%	0.22 [-0.31, 0.76] -0.01 [-0.66, 0.65]	
Medalia 2000-2 Meichenbaum 1973	-0.141 1.637	0.334	18	18 5	0.5%	-0.14 [-0.80, 0.51] 1.64 [0.16, 3.11]	
Mendella 2015	0.641	0.402	16 16	11 15	0.4%	0.64 [-0.15, 1.43]	
Morimoto 2018 Moritz 2011	0.368 0.733	0.363 0.345	18	18	0.5%	0.73 [0.06, 1.41]	
Mueller 2015 Mueller 2017	0.266	0.161	81 28	75 33	1.5% 0.8%	0.27 [-0.05, 0.58] 0.37 [-0.14, 0.88]	<del></del>
O'Reilly 2019 Ochoa 2017	0.207	0.249	32 48	33 41	0.9%	0.21 [-0.28, 0.70] 0.08 [-0.33, 0.50]	
Omiya 2016 Penades 2006	0.096 1.026	0.486	8 20	9 20	0.3%	0.10 [-0.86, 1.05] 1.03 [0.37, 1.69]	
Penades 2013 Penades 2018	0.076	0.338	17 35	18 35	0.5%	0.08 [-0.59, 0.74]	<del></del>
Pijnenborg 2019	-0.165	0.196	50	55	1.2%	-0.17 [-0.55, 0.22]	
Pontes 2013 Popova 2014	-0.059 0.18	0.486 0.325	9 19	8 19	0.3% 0.6%	-0.06 [-1.01, 0.89] 0.18 [-0.46, 0.82]	
Popova 2014-2 Rakitzi 2016	0.022	0.324	19 19	19 17	0.6%	0.02 [-0.61, 0.66] 0.38 [-0.28, 1.04]	
Ramsay 2017 Rass 2012	0.147	0.394	14 17	12 17	0.4%	0.15 [-0.63, 0.92] -0.02 [-0.70, 0.65]	
Rass 2012-2 Reeder 2017	-0.084 0.249	0.399	17 46	10 47	0.4%	-0.08 [-0.87, 0.70] 0.25 [-0.16, 0.66]	
Roberts 2014	0.124	0.258	30	30	0.8%	0.12 [-0.38, 0.63]	
Roncone 2004 Royer 2012	0.581 0.487	0.458 0.307	10 28	10 18	0.3%	0.58 [-0.32, 1.48] 0.49 [-0.11, 1.09]	+
Sachs 2012 Sartory 2005	-0.164 0.328	0.325	20 21	18 21	0.6%	-0.16 [-0.80, 0.47] 0.33 [-0.28, 0.94]	
Sevos 2018 Silverstein 2005	0.217	0.361	16 18	15 13	0.5%	0.22 [-0.49, 0.92]	
Tan 2016 Tan 2019	0.33	0.197	52 196	52 115	1.2%	0.33 [-0.06, 0.72]	
Tao 2015	0.832	0.225	44	42 26	1.0%	0.83 [0.39, 1.27]	
Tas 2012 Thomas 2018	0.585 0.197	0.296	24	22	0.6%	0.58 [-0.02, 1.19] 0.20 [-0.38, 0.78]	
Twamley 2008-2012 Van Oosterhout 2014	0.295 -0.283	0.243	38 51	31 60	0.9%	0.29 [-0.18, 0.77] -0.28 [-0.66, 0.09]	
Vaskinn 2019 Vidarsdottir 2019	-0.175 0.317	0.317	20 25	20 24	0.6%	-0.17 [-0.80, 0.45] 0.32 [-0.25, 0.88]	
Wolwer 2005 Wolwer 2005-2	0.624	0.282	28 24	25 25	0.7%	0.62 [0.07, 1.18]	
Wykes 1999 Wykes 2007a	0.177	0.349	17 21	16 19	0.5%	0.18 [-0.51, 0.86] 0.13 [-0.49, 0.75]	
Wykes 2007b	0.211	0.227	39	39	1.0%	0.21 [-0.23, 0.66]	<del></del> _
Zimmer 2007 Subtotal (95% CI)	0.401	0.282	20 3123	36 2953	0.7% 77.6%	0.40 [-0.15, 0.95] 0.26 [0.20, 0.32]	<b>+</b>
Heterogeneity: Tau <sup>2</sup> = 0.03; Chi <sup>2</sup> = 150.61, d Test for overall effect: Z = 8.10 (P < 0.00001	f = 106 (	(P = 0.0	03); I <sup>2</sup> =	30%			
2.37.3 All core elements (integrated rehat		1)					
Aloi 2018 Bowie 2012-2	0.483	0.317	21 36	20 35	0.6%	0.48 [-0.14, 1.10] 0.68 [0.20, 1.16]	+
Cavallaro 2009 Choi 2006	0.215	0.219	50 10	36 8	1.0%	0.21 [-0.21, 0.64]	
Choi 2017	0.315	0.331	18	19	0.6%	0.62 [-0.33, 1.58] 0.32 [-0.33, 0.96]	
Eack 2009 Hadas-Lidor 2001	0.187 0.678	0.264 0.27	31 29	27 29	0.8% 0.8%	0.19 [-0.33, 0.70] 0.68 [0.15, 1.21]	T=-
Hogarty 2004 Iwata 2017	0.255 0.441	0.196 0.271	61 28	46 28	1.2% 0.8%	0.26 [-0.13, 0.64] 0.44 [-0.09, 0.97]	<del></del>
Kidd 2014 Kukla 2018	0.196	0.365	18 23	13 22	0.5%	0.20 [-0.52, 0.91] 0.53 [-0.06, 1.13]	
Lee 2013 Lindenmayer 2008	0.681	0.266	30 41	30 31	0.8%	0.68 [0.16, 1.20] 0.16 [-0.31, 0.62]	
McGurk 2005	0.585	0.308	23	21	0.6%	0.58 [-0.02, 1.19]	
McGurk 2016 Ojeda 2012	0.268 0.64	0.283	28 44	23 40	0.7% 1.0%	0.27 [-0.29, 0.82] 0.64 [0.20, 1.08]	T ===
Ostergaard 2014 Pena 2016	0.284	0.186 0.201	60 52	57 49	1.3% 1.2%	0.28 [-0.08, 0.65] 0.35 [-0.05, 0.74]	
Puig 2014 Sanchez 2014	0.408	0.286	25 36	25 48	0.7%	0.41 [-0.15, 0.97] 0.64 [0.20, 1.09]	+===
Spaulding 1999 Tan 2013	0.045		48 36	42 34	1.1%	0.08 [-0.33, 0.49]	<del></del>
Ueland 2004	0.326	0.396	14	12	0.4%	0.33 [-0.45, 1.10]	
Vauth 2005 Vauth 2005-2	0.24	0.238 0.251	37 37	35 28	0.9%	0.41 [-0.06, 0.88] 0.24 [-0.25, 0.73]	+
Vita 2011a Vita 2011a-2	0.288	0.274 0.264	26 30	28 28	0.8%	0.34 [-0.20, 0.87] 0.29 [-0.23, 0.81]	
Vita 2011b Subtotal (95% CI)		0.363	16 908	15 829	0.5% 22.4%	0.36 [-0.35, 1.07] 0.40 [0.30, 0.49]	•
Heterogeneity: Tau <sup>2</sup> = 0.00; Chi <sup>2</sup> = 17.97, df Test for overall effect: Z = 8.19 (P < 0.00001	= 27 (P	= 0.90);				4	•
Total (95% CI)	,		4031	3782	100.0%	0.29 [0.24, 0.34]	•
Heterogeneity: Tau2 = 0.02; Chi2 = 175.71, d	f = 134	(P = 0.0			.00.076	U.24, U.34]	-1 -0.5 0 0.5 1
Test for overall effect: Z = 10.78 (P < 0.0000 Test for subgroup differences: Chi <sup>2</sup> = 5.66, d	1) f = 1 (P	= 0.02),	l <sup>2</sup> = 82.3	3%			Favours control Favours CR

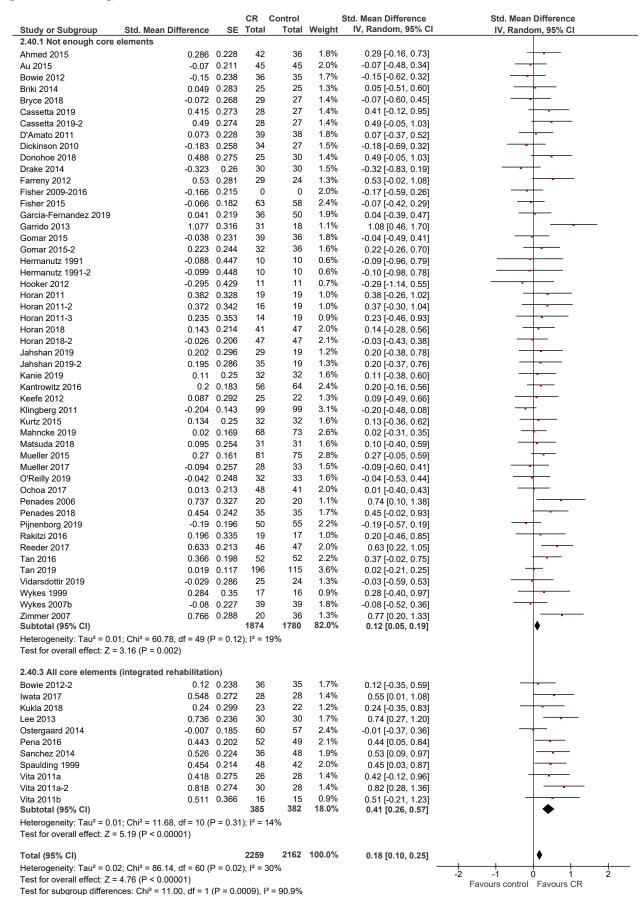
eFigure 4. Subgroup analysis for the effects of interventions including all core elements of cognitive remediation (global functioning)

	Mean Difference	SE	CR C Total	ontrol Total	Weight	Std. Mean Difference IV, Random, 95% CI	Std. Mean Difference IV, Random, 95% CI
38.1 Not enough core element	s	0.000					
hmed 2015 huir 2018	0.286 0.006		42 14	36 14	1.3%	0.29 [-0.16, 0.73] 0.01 [-0.73, 0.75]	
u 2015	-0.07		45	45	1.4%	-0.07 [-0.48, 0.34]	<del></del>
owie 2012	-0.15		36	35	1.2%	-0.15 [-0.62, 0.32]	<del>-+</del>
iki 2014	0.049		25	25	1.0%	0.05 [-0.51, 0.60]	<del></del>
ryce 2018	-0.072		29	27	1.0%	-0.07 [-0.60, 0.45]	<del></del>
rne 2013		0.373	14	17	0.6%	0.71 [-0.02, 1.44]	
assetta 2019 assetta 2019-2		0.273 0.274	28 28	27 27	1.0%	0.41 [-0.12, 0.95] 0.49 [-0.05, 1.03]	
Amato 2011	0.073		39	38	1.3%	0.07 [-0.37, 0.52]	
Souza 2013		0.220	22	23	0.9%	0.14 [-0.45, 0.72]	<del></del>
ickinson 2010		0.258	34	27	1.1%	-0.18 [-0.69, 0.32]	<del></del>
onohoe 2018		0.275	25	30	1.0%	0.49 [-0.05, 1.03]	<del></del>
rake 2014	-0.323	0.26	30	30	1.1%	-0.32 [-0.83, 0.19]	
arreny 2012		0.281	29	24	1.0%	0.53 [-0.02, 1.08]	-
ernandez-Gonzalo 2015	0.074		21	19	0.8%	0.07 [-0.55, 0.70]	
isher 2009-2016 isher 2015	-0.166		0 63	0	1.4%	-0.17 [-0.59, 0.26]	<u> </u>
isner 2015 iszdon 2016	-0.066 0.026		50	58 25	1.6% 1.2%	-0.07 [-0.42, 0.29] 0.03 [-0.45, 0.51]	
arcia 2003	0.251		11	9	0.5%	0.25 [-0.63, 1.13]	<del></del>
arcia-Fernandez 2019	0.041		36	50	1.3%	0.04 [-0.39, 0.47]	<del></del>
arrido 2013	1.077	0.316	31	18	0.8%	1.08 [0.46, 1.70]	<del></del>
iomar 2015	-0.038		39	36	1.2%	-0.04 [-0.49, 0.41]	<del></del>
iomar 2015-2	0.223		32	36	1.2%	0.22 [-0.26, 0.70]	+
ordon 2018	0.244		18	15	0.7%	0.24 [-0.44, 0.93]	<del></del>
ermanutz 1991	-0.088 -0.099		10 10	10	0.5% 0.5%	-0.09 [-0.96, 0.79]	
ermanutz 1991-2 ooker 2012	-0.295		11	10 11	0.5%	-0.10 [-0.98, 0.78] -0.29 [-1.14, 0.55]	
oran 2011	0.382		19	19	0.8%	0.38 [-0.26, 1.02]	<del></del>
oran 2011-2	0.372		16	19	0.7%	0.37 [-0.30, 1.04]	+
oran 2011-3	0.235	0.353	14	19	0.7%	0.23 [-0.46, 0.93]	<del></del>
oran 2018	0.143		41	47	1.4%	0.14 [-0.28, 0.56]	+-
oran 2018-2	-0.026		47	47	1.4%	-0.03 [-0.43, 0.38]	
ahshan 2019	0.202		29	19	0.9%	0.20 [-0.38, 0.78]	
ahshan 2019-2 anie 2019	0.195 0.11	0.286	35 32	19 32	1.0%	0.20 [-0.37, 0.76] 0.11 [-0.38, 0.60]	
antrowitz 2016		0.183	56	64	1.6%	0.20 [-0.16, 0.56]	<u> </u>
atsumi 2019	0.336		22	22	0.9%	0.34 [-0.26, 0.93]	+
eefe 2012	0.087		25	22	0.9%	0.09 [-0.49, 0.66]	<del></del>
lingberg 2011	-0.204		99	99	2.0%	-0.20 [-0.48, 0.08]	<del></del>
urtz 2015	0.134	0.25	32	32	1.1%	0.13 [-0.36, 0.62]	<del></del>
u 2012	0.732		60	62	1.6%	0.73 [0.37, 1.10]	
lahncke 2019		0.169	68	73	1.7%	0.02 [-0.31, 0.35]	
latsuda 2018 ledalia 2000	0.095 -0.577		31 18	31 18	1.1%	0.10 [-0.40, 0.59] -0.58 [-1.25, 0.09]	
ledalia 2000-2	1.486		18	18	0.7%	1.49 [0.74, 2.23]	
lendella 2015	0.043		16	11	0.6%	0.04 [-0.73, 0.81]	<del></del>
Iorimoto 2018	0.15	0.36	16	15	0.7%	0.15 [-0.56, 0.86]	<del></del>
lueller 2015	0.27	0.161	81	75	1.8%	0.27 [-0.05, 0.59]	<del> </del>
lueller 2017	-0.094		28	33	1.1%	-0.09 [-0.60, 0.41]	<del></del>
Reilly 2019	-0.042		32	33	1.1%	-0.04 [-0.53, 0.44]	
choa 2017	0.013		48	41	1.4%	0.01 [-0.40, 0.43]	
miya 2016	0.813		8 20	9	0.4%	0.81 [-0.18, 1.81]	
enades 2006 enades 2018	0.737 0.454	0.327	35	20 35	0.8% 1.2%	0.74 [0.10, 1.38] 0.45 [-0.02, 0.93]	
ijnenborg 2019		0.196	50	55	1.5%	-0.19 [-0.57, 0.19]	
opova 2014		0.325	19	19	0.8%	0.15 [-0.48, 0.79]	<del></del>
opova 2014-2		0.326	19	19	0.8%	0.28 [-0.36, 0.91]	<del>-   •</del>
akitzi 2016		0.335	19	17	0.8%	0.20 [-0.46, 0.85]	<del></del>
amsay 2017		0.396	14	12	0.6%	-0.32 [-1.10, 0.46]	<del></del>
eeder 2017		0.213	46	47	1.4%	0.63 [0.22, 1.05]	
oberts 2014	0.077		30	30	1.1%	0.08 [-0.43, 0.58]	
achs 2012 ilverstein 2005		0.327	20 18	18	0.8%	0.31 [-0.33, 0.95] 0.34 [-0.38, 1.06]	
ilverstein 2005 ilverstein 2009	0.342 0.471	0.367	44	13 35	1.3%	0.47 [0.02, 0.92]	
an 2016	0.366		52	52	1.5%	0.47 [0.02, 0.92]	<del></del>
an 2019	0.019		196	115	2.2%	0.02 [-0.21, 0.25]	+
as 2012	0.677		19	26	0.8%	0.68 [0.07, 1.29]	<del></del>
wamley 2008-2012	0.121	0.242	38	31	1.2%	0.12 [-0.35, 0.60]	<del></del>
askinn 2019	-0.054		20	20	0.8%	-0.05 [-0.67, 0.57]	<del></del>
idarsdottir 2019	-0.029	0.200	25	24	1.0%	-0.03 [-0.59, 0.53]	
/ykes 1999	0.284 0.011	0.35	17 21	16	0.7%	0.28 [-0.40, 0.97]	
/ykes 2007a /ykes 2007b	0.011 -0.08		21 39	19 39	0.8% 1.3%	0.01 [-0.61, 0.63] -0.08 [-0.52, 0.36]	
rykes 2007b immer 2007	0.766		20	39	0.9%	0.77 [0.20, 1.33]	<del></del>
ubtotal (95% CI)			2444	2299	77.7%	0.16 [0.09, 0.23]	♦
eterogeneity: Tau <sup>2</sup> = 0.02; Chi <sup>2</sup> = est for overall effect: Z = 4.51 (P		= 0.02	); I <sup>2</sup> = 279	6			
.38.3 All core elements (integra	ated rehabilitation	)					
loi 2018	0.444	0.316	21	20	0.8%	0.44 [-0.18, 1.06]	+
owie 2012-2		0.238	36	35	1.2%	0.12 [-0.35, 0.59]	<del></del>
avallaro 2009	0.205		50	36	1.3%	0.20 [-0.22, 0.63]	<del> </del>
ack 2009	1.508		31	27	0.9%	1.51 [0.92, 2.09]	
alderisi 2010	0.754		26 61	23	0.9%	0.75 [0.17, 1.34] 0.30 [-0.08, 0.68]	<u> </u>
ogarty 2004 vata 2017	0.3 0.548	0.196	61 28	46 28	1.5% 1.0%	0.30 [-0.08, 0.68]	
vata 2017 ukla 2018		0.272	23	28	0.9%	0.24 [-0.35, 0.83]	<del></del>
ee 2013	0.736		30	30	1.2%	0.74 [0.27, 1.20]	
jeda 2012	0.063		44	40	1.3%	0.06 [-0.37, 0.49]	<del></del>
stergaard 2014	-0.007	0.185	60	57	1.6%	-0.01 [-0.37, 0.36]	+
Storgaard 2014	0.443	0.202	52	49	1.4%	0.44 [0.05, 0.84]	<del></del>
ena 2016	0.422		25	25	1.0%	0.42 [-0.14, 0.98]	+
ena 2016 uig 2014	0.526		36	48	1.3%	0.53 [0.09, 0.97]	
ena 2016 uig 2014 anchez 2014		0.214	48	42	1.4%	0.45 [0.03, 0.87]	
ena 2016 uig 2014 anchez 2014 paulding 1999		0.397	14 39	12	0.6%	0.36 [-0.42, 1.14]	
ena 2016 uig 2014 anchez 2014 paulding 1999 eland 2004	0.36			41	1.3%	0.44 [-0.00, 0.88]	
ena 2016 uig 2014 anchez 2014 paulding 1999 eland 2004 entura 2019	0.36 0.441	0.226					
ena 2016 uig 2014 anchez 2014 paulding 1999 eland 2004 entura 2019 ita 2011a	0.36 0.441 0.418	0.226 0.275	26	28	1.0%	0.42 [-0.12, 0.96]	T
ena 2016 uig 2014 anchez 2014 paulding 1999 eland 2004 entura 2019 ita 2011a ita 2011a	0.36 0.441 0.418 0.818	0.226 0.275 0.274		28	1.0%	0.82 [0.28, 1.36]	
ena 2016 uig 2014 anchez 2014 paulding 1999 eland 2004 entura 2019 ita 2011a	0.36 0.441 0.418	0.226 0.275 0.274	26 30				•
ena 2016 uig 2014 paulding 1999 eland 2004 entura 2019 ita 2011a ita 2011a-2 ita 2011b	0.36 0.441 0.418 0.818 0.511	0.226 0.275 0.274 0.366	26 30 16 <b>696</b>	28 15	1.0% 0.7%	0.82 [0.28, 1.36] 0.51 [-0.21, 1.23]	•
ena 2016 uig 2014 anchez 2014 paulding 1999 eland 2004 entura 2019 lita 2011a ita 2011a-2 tita 2011b	0.36 0.441 0.418 0.818 0.511 = 30.26, df = 19 (P =	0.226 0.275 0.274 0.366	26 30 16 <b>696</b>	28 15	1.0% 0.7%	0.82 [0.28, 1.36] 0.51 [-0.21, 1.23]	•
ena 2016 uig 2014 anchez 2014 paulding 1999 eland 2004 entura 2019 Ita 2011a Ita 2011a-2 Ita 2011b-2 Utototal (95% CI) eterogeneity: Tau² = 0.04; Chi² = est for overall effect: Z = 6.13 (P	0.36 0.441 0.418 0.818 0.511 = 30.26, df = 19 (P =	0.226 0.275 0.274 0.366	26 30 16 <b>696</b> I <sup>2</sup> = 37%	28 15 652	1.0% 0.7% 22.3%	0.82 [0.28, 1.36] 0.51 [-0.21, 1.23] 0.43 [0.30, 0.57]	•
ena 2016 uig 2014 pauding 1999 eland 2009 entura 2019 ta 2011a ta 2011a ta 2011a ta 2011b uibotal (98% CI) elerogeneity: Tau" = 0.04; Chi" -	0.36 0.441 0.418 0.818 0.511 - 30.26, df = 19 (P = < 0.00001)	0.226 0.275 0.274 0.366 = 0.05);	26 30 16 696 I <sup>2</sup> = 37%	28 15 652	1.0% 0.7%	0.82 [0.28, 1.36] 0.51 [-0.21, 1.23]	•

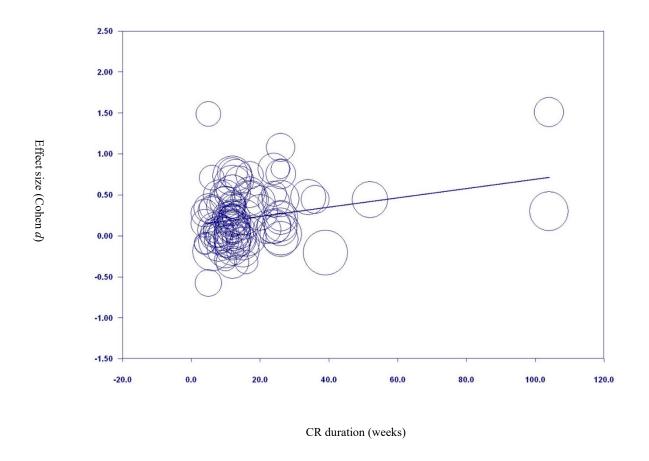
eFigure 5. Sensitivity analysis: subgroup analysis in eFigure 3 including only methodological adequate studies (global cognition)



eFigure 6. Sensitivity analysis: subgroup analysis in eFigure 4 including only methodological adequate studies (global functioning)



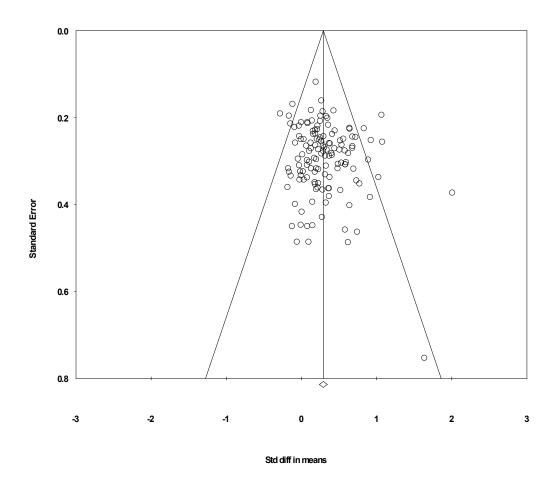
eFigure 7. Meta-analytic scatter plot for global functioning (expressed as Cohen d) and duration of cognitive remediation (CR) programs (in weeks).



The figure shows the direction of effect size for global functioning as a function of CR duration. Circles are proportionate to study weight in the analysis.

	N	Coefficient	SE	z-test	95% CI (lower limit)	95% CI (upper limit)	p value
Slope	05	0.006	0.002	2.76	0.002	0.010	0.006
Intercept	93	0.122	0.049	2.50	0.026	0.218	0.013

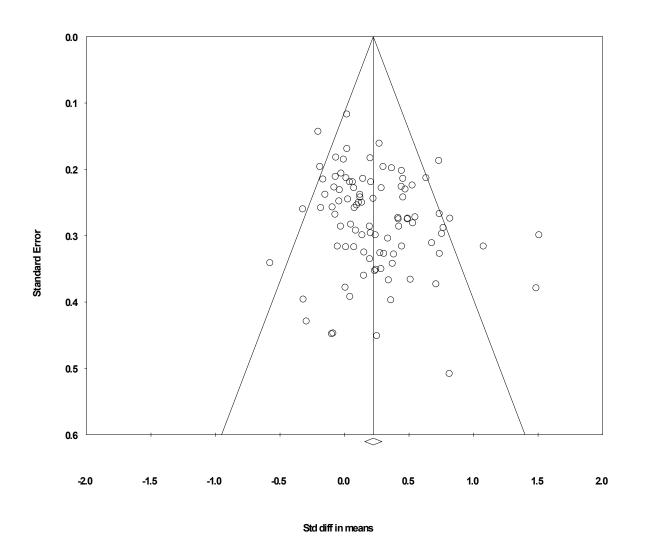
eFigure 8. Analysis of publication bias - Funnel plot for global cognition.



Test for asymmetry of funnel plot (linear regression of effect estimates on their standard errors weighted by their inverse variance – Egger test):

	N	Coefficient	SE	95% CI (lower limit)	95% CI (upper limit)	p value
Intercent	135	0.620	0.375	-0.121	1.362	0.100

eFigure 9. Analysis of publication bias – Funnel plot for global functioning.



Test for asymmetry of funnel plot (linear regression of effect estimates on their standard errors weighted by their inverse variance – Egger test):

	N	Coefficient	SE	95% CI (lower limit)	95% CI (upper limit)	p value
Intercept	95	1.211	0.468	0.281	2.140	0.011

Adjustment of effect estimates using the Duval and Tweedie trim and fill method (studies missing to the left of the mean; random-random effects model):

	N	Point Estimate	95% CI (lower limit)	95% CI (upper limit)
Observed	95	0.223	0.157	0.289
Adjusted	+0	0.223	0.157	0.289

## Adjustment of effect estimates using the Duval and Tweedie trim and fill method (studies missing to the left of the mean; fixed-random effects model):

	N	Point Estimate	95% CI (lower limit)	95% CI (upper limit)
Observed	95	0.223	0.157	0.289
Adjusted	+20	0.104	0.028	0.180

A significant funnel plot asymmetry was observed at visual inspection and confirmed with the Egger test.

The trim and fill method, when applied with a random-random effect model, produced no adjustment of the effect estimate for studies missing on the left of the mean, while an adjustment comprising 20 studies was produced when using a fixed-random effect model.

The investigation of publication bias in the present work is complicated by the presence of heterogeneity between studies that is related to differences in methodological quality, in clinical settings and samples, in the implementation of interventions and in outcome measurement. Heterogeneity could represent a consistent explanation for the funnel plot asymmetry; this interpretation is also supported by the fact that subgroup analyses and meta-regressions based on methodological and clinical parameters (such as methodological quality, blinding of outcome assessment, intervention duration and implementation of CR with other psychosocial interventions) were found to be significant for functioning in particular. Furthermore, the investigation of functional outcome is intrinsically more prone to bias due to the assessment method (lack of standardized batteries, frequent use of self-report measures, investigation of different domains) and, in the studies included in the present work, it was more often evaluated by non—blind personnel, compared to cognition. Small studies and feasibility trials represent a substantial proportion of the included studies, and it should be noted that the meta-regression on sample size revealed that this element was inversely related to the dimension of the effect detected on functioning. However, it is also true that in the field of psychosocial interventions large controlled trials are often hard to conduct, and small studies or pilot trials represent a typical situation for research on CR, which is implemented heterogeneously and inconsistently in clinical practice.

In this context, publication bias could represent one of the possible reasons for funnel plot asymmetry, but it is unlikely to be most prominent. Results of the trim-and-fill adjustment should therefore be interpreted cautiously and considered as one among the sensitivity analyses rather than as the "true" unbiased effect estimate.