**Supplementary Table 1: Raw data sheet.**

| Author | Year | Country | Criteria (Cut-Off) | Sample Size | Cognitively Impaired (ANI, MND, HAD in %) | Mean Age (SD) or Median (IQR), Range | ART Coverage (%) | Male (%) | Exclusion Criteria for Study Participants | Recruitment Year(s) / Time of Testing | Cohort / Place of Recruitment | NOS Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Arentoft et al.** | **2015** | USA | Frascati | 134 | 68 (56, 5, 7) | 47.6 (8.1) | 90.6 | 70 | yes | . | community outreach in NYC (East Harlem), Icahn School of Medicine at Mount Sinai | 7 |
| **Agarwal et al.** | **2020** | India | MoCA (26) | 160 | 52.5 | 44 (10) | 50 | 75.6 | yes | . | Chandra Laxmi Hospital, Vaishali, Ghaziabad | 7 |
| **Akena et al.** | **2010** | Uganda | MMSE | 64 | 70.3 | 32 (6.5) | . | 21.9 | no, only depression included | 2007 | mental health units of Mulago general hospital and Butabika psychiatric hospital | 6 |
| **Akolo et al.** | **2014** | Nigeria | GDS | 133 | 30.8 | 33.6 (7.3) | 0 | 42.1 | yes | . | National Hospital (NH) & University of Abuja Teaching Hospital (UATH) | 8 |
| **Alford et al.** | **2019** | UK | Frascati (uncategorised) | 52 | 31 | 55'median', 36-84 | 98 | 79 | no, BUT score is adjusted | 2016-2018 | The Orange Clinic, Brighton (memory clinic) | 6 |
| **Animut et al.** | **2019** | Ethiopia | IHDS (9.5) | 684 | 67.1 | 38.8 (8.8) | 100 | 44 | only neurological disorders & psychiatric disorders excluded | 2017 | Gamo Gofa zone | 8 |
| **Araya et al.** | **2020** | Ethiopia | IHDS (9.5) | 581 | 35.6 | 38 (9.8) | 100 | 38.7 | no | 2018 | four federal hospitals in Addis Ababa | 7 |
| **Arenas-Pinto et al.** | **2014** | UK | Frascati (uncategorised) | 548 | 52 | 44 (9) | 100 | 76 | unspecified | 2008-2010 | Protease Inhibitor monotherapy Versus On-going Triple-therapy (PIVOT) trial | 8 |
| **Asiedu, Kretchy & Asampong** | **2020** | Ghana | IHDS | 104 | 48 | 37.2 (10.1) | 100 | 21.2 | only psychiatric disorders & head injuries excluded | 2017 | Ridge Hospital in Accra | 7 |
| **Atashili et al.** | **2013** | Cameroon | IHDS (10) | 400 | 85 | 41 (34-47) | 100 | 26 | unspecified | 2010 | Bamenda Regional Hospital AIDS Treatment Centre | 7 |
| **Atkins et al.** | **2010** | Canada | clinical NP ratings | 357 | 48.5 | 41.5, 19-64 | 70 | 100 | unspecified | . | St. Michael's Hospital in Toronto | 8 |
| **Aung et al.** | **2021** | Australia | GDS | 254 | 42 | 49.4 (9.5) | 91.7 | . | only alcohol/substance intoxication at time of assessment excluded | 2011-2012 | primary care clinic in Sydney | 8 |
| **Awori et al.** | **2018** | Kenya | MoCA (26) | 215 | 69 | 44.5, 18-65 | 100 | 47.2 | only CNS abnormalities excluded | 2015-2016 | Aga Khan University Hospital | 8 |
| **Bai et al.** | **2017** | Italy | Frascati | 155 | 32.3 (25.8, 6.5, 0) | 39 (31-46) | 0 | 92 | yes | . | . | 8 |
| **Banerjee, McIntosh & Ironson** | **2019** | USA | HDS (10) | 209 | 14.8 | 37.7 (8.7) | 49.3 | 71.8 | yes | 1997-2000 | physician's offices, specialty clinics, service organizations, and hospitals in Miami, Florida | 8 |
| **Barber et al.** | **2017** | UK | IHDS (10) | 144 | 21.5 | 41 (37-45) | . | 100 | yes | . | MSM Neurocog Study | 6 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Becker et al.** | **2004** | USA | clinical NP ratings | 290 | 20.2 | 39.3 (8.2) | 17 | 83.9 | no | . | Allegheny County Neuropsychiatric Survey (ACNS) | 8 |
| **Belete, Medfu & Yemiyamrew** | **2017** | Ethiopia | IHDS (9.5) | 234 | 33.3 | 38.3 (9.9) | 88 | 35 | yes | 2016 | Ayder Comprehensive Specialized Hospital | 8 |
| **Bharti et al.** | **2021** | Nigeria | GDS | 174 | 27.6 | 34.3 (7.6) | 0 | 39.7 | unspecified, 36% ASYMPTOMATIC MALARIA | 2011-2012 | neuroAIDS study in Abuja, Nigeria | 8 |
| **Bloch et al.** | **2016** | Australia | Frascati | 254 | 30.7 (15, 12.6, 3.1) | 48.5 (15.1) | 91.7 | 99.6 | no | 2011-2012 | Holdsworth House Medical Practice, Sydney | 8 |
| **Boccellari et al.** | **1993** | USA | Gisslen (uncategorised) | 55 | 22 | 39.6 (5.5) | 12.7 | 100 | yes | 1989 | San Francisco General Hospital | 7 |
| **Bornstein et al.** | **1993** | USA | (1.5 SD in at least 6 out of 15 measures) | 233 | 12.8 | 34.4 (7.1) | . | 100 | only neurological, head injuries & history of drug use excluded | . | AIDS Clinical Trials Unit and local HIV-related community-based support groups | 7 |
| **Bourgeois et al.** | **2020** | USA | MoCA (26) | 359 | 33.7 | 57.4 (5.9) | 98 | 85 | unspecified | 2012-2014 | two San Francisco HIV clinics | 8 |
| **Braganca & Palha** | **2011** | Portugal | GDS | 130 | 51 | 39.3 (6.1) | 100 | 63.1 | yes | 2008 | Infectious Diseases Service (IDS) of Hospital of S. João | 7 |
| **Brito-Marques et al.** | **2020** | Brazil | MoCA (23) | 133 | 83.5 | 44.7 (8.8) | . | 57.9 | yes | 2016-2017 | Hospital Universitário Oswaldo Cruz (HUOC), Universidade de Pernambuco (UPE), in Recife | 7 |
| **Brouillette et al.** | **2015** | USA | Frascati (HAD) | 200 | 33 | 43 (11) | 100 | 72 | yes | . | outpatient Infectious Disease Clinic at Washington University in St. Louis (WUSTL) | 8 |
| **Brouillette et al.** | **2021** | Canada | GDS | 263 | 52.5 | 54.4 (8.0) | . | 84 | yes | 2014-2017 | Positive Brain Health Now Canadian cohort | 8 |
| **Bryant et al.** | **2015** | USA | Frascati (uncategorised) | 120 | 58.1 | 45.2 (9.5) | 82.4 | 63.6 | no | . | The Miriam Hospital Immunology Center | 6 |
| **Bunupuradah et al.** | **2012** | Thailand | Frascati (uncategorised) | 93 | 31.2 | 36.9 (32.8-40.5) | 100 | 60.2 | only CNS infections excluded | 2008-2009 | HIV STAR study | 7 |
| **Carvalhal et al.** | **2016** | Canada | GDS | 417 | 60 | 46.8 (9.7) | 100 | 81 | no | . | Ontario HIV Treatment Cohort Study (OCS) | 8 |
| **Casado et al.** | **2014** | Spain | Frascati (uncategorised) | 229 | 13 | 44.6 (38-51) | 100 | 77 | only psychiatric disorders & CNS infections excluded | 2011-2012 | . | 7 |
| **Chalermchai et al.** | **2013** | Thailand | clinical NP ratings | 75 | 51 | 34 (7) | 0 | 44 | yes | 2008-2012 | SEARCH 007 & 011, Bangkok | 8 |
| **Chan et al.** | **2012** | Singapore | Frascati | 132 | 22.7 (15.9, 5.3, 1.5) | 45.9 (10.1) | . | 86.4 | only neurological & psychiatric disorders excluded | 2010 | Communicable Disease Centre of Singapore | 7 |
| **Chan et al.** | **2021** | Thailand | Frascati (uncategorised) | 67 | 30 | 28'median' | 0 | 96 | unspecified | . | RV254 Thai AHI cohort | 6 |
| **Chan et al.** | **2019** | China | IHDS (10) | 98 | 39 | 31 (26-43) | 0 | 94 | only neurological & psychiatric disorders excluded | 2013-2015 | AIDS Clinical Service, Queen Elizabeth Hospital, Hong Kong | 7 |
| **Chang et al.** | **2011** | USA | Frascati | 69 | 42 (18.8, 21.7, 1.4) | 47.4 (1.2) | 80 | 91 | yes | . | . | 6 |
| **Ciccarelli et al.** | **2011** | Italy | Frascati | 146 | 47.2 (35.6, 11.6, 0) | 46.6 (20.4-54.8) | 88.4 | 58 | yes | 2008-2010 | . | 7 |
| **Ciccarelli et al.** | **2013** | Italy | Frascati | 101 | 49.5 (49.5, 0, 0) | 47 (42-52) | 100 | 66 | yes | 2008-2010 | . | 7 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ciccarelli et al.** | **2019** | Italy | Gisslen (uncategorised) | 386 | 12 | 46 (40-52) | 96.1 | 79.3 | yes, 19.4% HCV-COINFECTION | . | Agostino Gemelli University Hospital, Rome and S. Caterina Novella Hospital, Galatina | 8 |
| **Cook et al.** | **2014** | India | Frascati (uncategorised) | 80 | 57 | 38.2 (8.4) | 100 | 70 | only psychiatric disorders & substance use excluded | 2009-2010 | PGIMER Immunodeficiency Clinic in Chandigarh, India | 7 |
| **Cook et al.** | **2016** | India | IHDS (10) | 75 | 36 | 29 (6) | 0 | 62.7 | only CNS infections, head injuries & substance use excluded | . | Postgraduate Institute of Medical Education & Research, Chandigarh | 7 |
| **Cross et al.** | **2013** | USA | IHDS (10) | 507 | 41 | 42 (33-49) | 75 | 65.1 | no | 2008 | . | 6 |
| **Crum-Cianflone et al.** | **2013** | USA | GDS | 200 | 19 | 36.4 (28.1-43.6) | 70.5 | 95.5 | only acute medical events excluded | . | . | 6 |
| **Cruz & Ramos** | **2015** | Brazil | MMSE (23) | 142 | 28.1 | 60-81 | 82.3 | 56.3 | unspecified | 2008-2012 | Reference and Treatment Center for STD/AIDS in the city of São Paulo | 6 |
| **Cysique et al.** | **2010** | China | GDS | 192 | 42.7 | 40.2 (6.3) | 60.9 | 61 | unspecified | . | Anhui province, local hospital in Fuyang City | 8 |
| **Dampier et al.** | **2017** | USA | GDS | 112 | 59.3 | 51 (46-56) | 100 | 64.3 | only alcohol/substance intoxication at time of assessment excluded | . | CARES cohort | 8 |
| **Dang et al.** | **2015** | China | IHDS | 230 | 37.5 | 18-65 | . | . | yes | 2011-2012 | Guangxi Zhuang autonomous region of Southern China | 6 |
| **Darling et al.** | **2021** | Switzerland | Frascati | 981 | 39.8 (25.4, 0.8, 0.6) | 54.5 (7.5) | 97.8 | 79.7 | no | 2013-2016 | NAMACO study | 8 |
| **Davies et al.** | **2019** | UK | MNC | 78 | 28 | 46.9 (12.4) | 100 | 100 | yes | . | . | 6 |
| **Day et al.** | **2016** | China | GDS | 308 | 26.6 | 36 (32-40) | 37 | 65 | unspecified, 91% HCV COINFECTION | . | Anhui and Yunnan, China | 8 |
| **de Almeida et al.** | **2017** | Brazil | Frascati | 60 | 60 (48.3, 3.3, 8.3) | 42.5 (9.1) | 78 | 50 | yes, BUT 20% with HCV COINFECTION | . | Hospital de Clinicas UFPR (HC-UFPR), Curitiba | 8 |
| **de Ronchi, Faranca & Berardi** | **2002** | Italy | Frascati (HAD) | 182 | 20.3 | . | 98.9 | 79.1 | only neurological, psychiatric disorders & CNS infections excluded | 1994-1997 | University of Bologna | 7 |
| **Deiss et al.** | **2019** | USA | GDS | 189 | 18.5 | 36 (28-44) | 65.6 | 100 | no | 2009-2011 | . | 7 |
| **Derry et al.** | **2020** | USA | MoCA (23) | 162 | 35 | 61.2 (5.8) | . | 67 | unspecified | . | Weill Cornell Clinical and Translational Science Center | 6 |
| **Ding et al.** | **2017** | China | IHDS (10) | 345 | 46.7 | 52.7 (9.5) | 87 | 78 | unspecified | 2014-2015 | Taizhou Prefecture of Zhejiang Province | 7 |
| **Donne et al.** | **2020** | Italy | Frascati | 85 | 7 (7, 0, 0) | 54 (48-60) | . | 78 | yes | 2018-2019 | Infectious Diseases Institute of Policlinico Gemelli Foundation of Rome | 7 |
| **Duarte et al.** | **2020** | Brazil | IHDS (10) | 148 | 69.6 | 43'median' | . | 38.5 | unspecified | 2019-2020 | Hospital Nereu Ramos (HNR) | 6 |
| **Dufouil et al.** | **2015** | France | Frascati | 400 | 58.5 (20.8, 31, 6.8) | 47.3 (10.2) | 95 | 79.2 | unspecified | 2007-2009 | (ANRS) CO3 Aquitaine cohort | 8 |
| **Dufour et al.** | **2013** | USA | GDS | 335 | 22.1 | 47.7 (10.5) | 82.2 | 74 | yes | 2007-2011 | HIV Neurobehavioral Research Center (HNRC) | 8 |
| **Dwyer et al.** | **2014** | China | Frascati (uncategorised) | 50 | 69 | 35 (7.3) | 70 | 84 | unspecified | . | Ditan Hospital | 6 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Elham et al.** | **2020** | Iran | Frascati | 93 | 50.6 (23.7, 18.3, 8.6) | 36.6 (9) | 92.5 | 60 | only psychiatric disorders & CNS infections excluded | 2016-2017 | VCT center, Tehran | 8 |
| **Ene et al.** | **2016** | Romania | GDS | 194 | 36.5 | 24 (1.5) | 91.7 | 48.4 | yes | 2014 | . | 8 |
| **Erlandson et al.** | **2019** | USA | Frascati (uncategorised) | 987 | 17 | 51'median' | . | 81 | unspecified | 2013-2014 | HAILO study | 6 |
| **Estiasari et al.** | **2015** | Indonesia | Frascati (uncategorised) | 82 | 51 | 31 (19-48) | 0 | 68 | only neurological, psychiatric disorders, head injuries & CNS infections excluded | 2013-2014 | Cipto Mangunkusumo Hospital, Jakarta | 7 |
| **Fabbiani et al.** | **2018** | Italy | Frascati | 266 | 16.2 (16.2, 0, 0) | 44 (36-50) | 100 | 79.7 | only psychiatric disorders & substance use excluded | . | ATLAS-M trial | 7 |
| **Fabbiani et al.** | **2017** | Italy | Frascati (uncategorised) | 54 | 13 | 50'median', 27-60 | 100 | 85.2 | only CNS infections & substance use excluded | . | . | 6 |
| **Fabbiani et al.** | **2019** | Italy | T-Score (40) | 146 | 24 | 50 (46-54) | 92.5 | 76 | yes, ALL COINFECTED WITH HCV | 2009-2018 | Rome, Monza and Siena | 7 |
| **Failde-Garrido et al.** | **2008** | Spain | Frascati (HAD) | 88 | 52.3 | 33.8 (5.2) | 83 | 64.8 | yes | . | hospitals in Ourense | 7 |
| **Fazeli, Woods & Vance** | **2019** | USA | clinical NP ratings | 174 | 53 | 51.3 (7) | 91 | 62 | only neurological & psychiatric disorders excluded | . | University HIV/AIDS Clinic | 8 |
| **Ferrando et al.** | **2003** | USA | Frascati (uncategorised) | 141 | 62 | 40 (8) | . | 100 | only history & current substance use excluded | 1995-1997 | . | 6 |
| **Fialho et al.** | **2013** | Portugal | HDS (10) | 103 | 57.3 | 43.9 (12.4) | 100 | 0 | only neurological, psychiatric disorders & current substance use excluded | 2010 | Infectious Diseases Service (IDS) of the Portuguese National Health System Hospital (Lisbon) | 7 |
| **Filho & de Melo** | **2012** | Brazil | MMSE (24) | 52 | 36.5 | 57.6 (6.2) | 94.2 | 55.8 | only neurological & psychiatric disorders excluded | 2008 | Correa Picanço Hospital and the University Hospital of the Universidade Federal de Pernambuco (UFPE) | 7 |
| **Fitri, Rambe & Fitri** | **2018** | Indonesia | MoCA (26) | 85 | 75.3 | 38.5 (9.8) | . | 61.2 | only neurological, psychiatric disorders & CNS infections excluded | 2017 | Adam Malik General Hospital Medan North Sumatera Indonesia | 6 |
| **Flatt et al.** | **2021** | Tanzania | Frascati | 253 | 47.1 (25.3, 18.2, 3.6) | 57'median' | 95.5 | 27.7 | no | 2016 | Mawenzi Regional Referral Hospital (MRRH) HIV Care and Treatment Centre (CTC) | 8 |
| **Foca et al.** | **2016** | Italy | Frascati | 206 | 47.1 (30.6, 15, 1.5) | 40.2 (10.4) | . | 85 | only neurological, psychiatric disorders & CNS infections excluded | 2009-2013 | University Department of Infectious and Tropical Diseases of University of Brescia and Spedali Civili General Hospital (Brescia, Italy) | 8 |
| **Foley et al.** | **2013** | USA | GDS | 79 | 21.5 | 21-79 | . | 78.5 | only CNS infections & brain injuries excluded | . | local hospitals and community agencies in the Los Angeles area | 7 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ganasen et al.** | **2008** | South Africa | HDS (10) | 474 | 17.1 | 34.3 (7.9) | . | 26 | unspecified | . | primary healthcare HIV clinics, in the Western Cape of South Africa | 6 |
| **Gandhi et al.** | **2011** | USA | Frascati | 114 | 86 (32.5, 19.3, 34.2) | 46.8 (6.4) | . | 66.7 | only neurological, psychiatric disorders & CNS infections excluded | 2007-2010 | General Clinical Research Clinic at Johns Hopkins Hospital in Baltimore | 7 |
| **Garvey, Surendrakumar & Winston** | **2011** | UK | Frascati (uncategorised) | 101 | 19 | 53 (43-62) | 100 | 88 | only neurological & substance use history excluded | . | . | 7 |
| **Gascon et al.** | **2018** | Brazil | Frascati | 412 | 73.6 (50.9, 16.2, 6.3) | 45.3 (10.7) | 100 | 68.3 | yes | 2013-2015 | Institute of Infectious Diseases Emilio Ribas (IIER), São Paulo | 7 |
| **Gibbie et al.** | **2006** | Australia | HDS (10) | 129 | 7 | 44.7 | 93 | 95 | unspecified | . | Melbourne | 6 |
| **Gomez et al.** | **2019** | Canada | Frascati | 381 | 21.2 (8.1, 11, 2.1) | 47.3 (11.1) | 94 | 88 | only neurological, psychiatric disorders, CNS infections & head injuries excluded | . | Southern Alberta HIV Clinic (SAC) in Calgary, Alberta | 8 |
| **Goodkin et al.** | **2014** | South Africa | Frascati (uncategorised) | 70 | 43 | 31.5 (8) | 0 | 18.6 | unspecified | . | . | 6 |
| **Gott et al.** | **2017** | Australia | GDS | 96 | 55.2 | 56.1 (7.9) | 100 | 97.9 | only neurological, psychiatric disorders & substance use excluded | 2009-2011 | St Vincent's Hospital | 8 |
| **Grauer et al.** | **2015** | Germany | Frascati | 86 | 87.2 (29.1, 43, 15.1) | 49'median', 19-72 | 89 | 82.6 | unspecified | 2012-2014 | University Hospital Muenster | 7 |
| **Greene et al.** | **2015** | USA | MoCA (26) | 155 | 46.5 | 57 (54-62) | 100 | 93.6 | no | . | University of California San Francisco SCOPE cohort | 7 |
| **Grima et al.** | **2012** | Italy | Frascati | 116 | 46.6 (46.6, 0, 0) | 44 (37-49) | 97.4 | 78.5 | yes | 2010-2011 | . | 7 |
| **Groff et al.** | **2020** | USA | Frascati | 77 | 37.7 (26, 9.1, 2.6) | 47.5 | 100 | 59.7 | yes | . | . | 6 |
| **Grund et al.** | **2013** | Australia, USA, Brazil, Thailand | Frascati (HAD) | 258 | 13.6 | 40 (35-45) | 96.1 | 57.8 | unspecified | 2005-2006 | SMART study | 7 |
| **Gupta & Venugopal** | **2020** | India | Frascati (uncategorised) | 384 | 48 | 38.3 (9.2) | 100 | 62.5 | yes | . | . | 7 |
| **Gupta et al.** | **2007** | India | (below 15th percentile in at least 2 domains) | 119 | 60.5 | 29.9 (5.6) | 0 | 43.7 | only neurological & CNS infections history excluded | 2003-2004 | National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore | 6 |
| **Haddow et al.** | **2018** | UK, Denmark, Belarus, Italy | Frascati | 448 | 25.8 (20, 4.9, 0.9) | 45.8 (9.6) | 89.1 | 84.4 | no | 2011-2013 | MULTICENTER study: CIPHER study | 8 |
| **Halman et al.** | **2014** | Canada | Frascati (uncategorised) | 83 | 48.2 | 49.2 (10.5) | 74.7 | 80.7 | no | 2008 | Casey House | 7 |
| **Hanna et al.** | **2020** | USA | Frascati | 108 | 37 (21.3, 9.2, 6.5) | 26-72 | . | 58 | yes | . | . | 6 |
| **Heaton et al.** | **2008** | China | GDS | 201 | 35.5 | 40.9 (6.4) | 64 | 60.7 | yes | 2005 | Fuyang, Anhui | 8 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hestad et al.** | **2019** | Zambia | GDS | 275 | 36.7 | 41.1 (8.8) | 100 | 38.6 | only neurological, psychiatric disorders & substance use excluded | . | Lusaka | 8 |
| **Hiransuthikul et al.** | **2019** | Thailand | MoCA (25) | 340 | 59.4 | 55 (52-59) | . | 61.5 | unspecified | 2015-2017 | HIV-NAT 006 long-term cohort | 6 |
| **Holguin et al.** | **2011** | Zambia | IHDS (10) | 54 | 22 | 34 (0.8) | 0 | 35 | only brain injuries excluded | 2008 | Lusaka | 7 |
| **Imai et al.** | **2020** | Japan | Frascati | 444 | 26.1 (16, 9.7, 0.4) | 45 (40-53) | . | 95 | yes, BUT 13% with hemophilia | 2016-2018 | AIDS Clinical Center in National Center for Global Health and Medicine (ACC) | 8 |
| **Imam** | **2007** | Nigeria | MMSE (25) | 202 | 12.3 | 35.7 (12-60) | 59.9 | 47.6 | no | 2003 | State House Clinic in Abuja | 7 |
| **Invernizzi et al.** | **2018** | Italy | MoCA (26) | 69 | 49.2 | 53 (7.3) | 100 | 69.6 | no | 2015-2016 | Luigi Sacco Hospital | 6 |
| **Janssen et al.** | **2015** | Netherlands | Frascati | 95 | 41.1 (35.8, 5.3, 0) | 48.2 (10.1) | 100 | 87.4 | yes | 2012-2014 | Art-NeCo study | 7 |
| **Janssen et al.** | **1989** | USA | Frascati (HAD) | 100 | 20 | 35.1 (4) | . | 100 | yes | 1978-1980 | San Francisco City Clinic | 6 |
| **Jevtovic et al.** | **2009** | Serbia | HDS | 96 | 41.7 | 44 (12.1) | 100 | 80.2 | unspecified | . | Institute of Infectious and Tropical Diseases in Belgrade | 6 |
| **Joska et al.** | **2016** | South Africa, USA | Frascati | 156 | 74 (26.2, 29.4, 12.2) | 40'median' | 100 | 37.2 | unspecified | . | Cape Town and Baltimore | 8 |
| **Joska et al.** | **2011** | South Africa | Frascati | 170 | 76.5 (8.8, 42.4, 25.3) | 29.5 (3.6) | 0 | 26 | only mental health problems, substance use & head injuries excluded | 2008-2009 | three primary health care centers in Cape Town | 8 |
| **Joska et al.** | **2019** | South Africa | CSID | 55 | 18.18 | . | 86.1 | 29.1 | unspecified | . | Eastern Cape in South Africa | 6 |
| **Jumare et al.** | **2020** | Nigeria | Frascati | 190 | 24.2 (16.8, 7.4, 0) | 33 (29-40) | 0 | 34.7 | yes | 2011-2014 | Abuja, Nigeria | 7 |
| **Jumare et al.** | **2019** | China, India, Nigeria | GDS | 761 | 27.7 | 35 (9) | . | 58.2 | unspecified | . | . | 6 |
| **Kabuba et al.** | **2017** | Zambia | GDS | 266 | 34.6 | 40.7 (8.7) | 100 | 40 | only neurological disorders & substance use excluded | | Chilenje, Chipata, Kabwata, Kalingalinga, Matero Main, and Matero Referal clinics | 8 |
| **Kalayjian et al.** | **2019** | USA | GDS | 225 | 22.7 | . | 100 | 90.9 | only neurological disorders excluded | . | AIDS Clinical Trials Group Study A5303 | 7 |
| **Kalayjian et al.** | **2014** | USA | BNCS | 1972 | 24 | 40 (33-47) | 89 | 82 | unspecified | . | ALLRT study | 7 |
| **Kallianpur et al.** | **2016** | USA | GDS | 1261 | 36.2 | 43 (8.6) | 70.3 | 77 | yes | 2003-2007 | CHARTER study | 8 |
| **Kalungwana et al.** | **2014** | Zambia | MMSE (22) | 58 | 50 | 36.8 (28-47) | 36 | 53 | unspecified | 2011-2013 | University Teaching Hospital in Lusaka | 6 |
| **Kamal et al.** | **2017** | Switzerland | Frascati | 59 | 27.1 (15.2, 6.8, 5.1) | 53 (47-58) | 100 | 66 | no, BUT subsequently excluded | . | Swiss HIV Cohort Study (SHCS) | 7 |
| **Kamat et al.** | **2017** | India | GDS | 69 | 33 | 37.4 (8.1) | 61 | 66.7 | unspecified | 2010-2013 | YRG CARE in Chennai | 7 |
| **Kamminga et al.** | **2017** | Australia | GDS | 55 | 47.2 | 49.3 (8.9) | 87 | 100 | only neurological, psychiatric disorders & current substance use excluded | 2011-2012 | Sydney | 8 |
| **Karlsen, Froland & Reinvang** | **1994** | Norway | T-Score (40) | 52 | 26.9 | 36 (8.4) | . | 88.5 | only drug use excluded | 1986-1990 | National Hospital (Rikshospitalet) | 6 |
| **Kelly et al.** | **2014** | Malawi | Frascati | 106 | 70 (55, 12, 3) | 39'median', 18-71 | 100 | 27 | only neurological disorders excluded | 2011-2012 | Queen Elizabeth Central Hospital (QECH), Blantyre | 8 |
| **Kemp et al.** | **2021** | UK | NMM | 140 | 40.7 | 52.2 (9.7) | 96 | 83 | only neurological disorders excluded | . | HIV-POGO study | 8 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Kim et al.** | **2016** | South Korea | Frascati | 194 | 26.3 (13.9, 12.4, 0) | 45.1 (11) | 86.6 | 93.8 | yes | . | Seoul | 7 |
| **Kinai et al.** | **2017** | Japan | Frascati | 728 | 25.3 (13.5, 10.6, 1.2) | 45.6 (10.6) | 97 | 95 | yes | 2014-2016 | . | 6 |
| **Klusman et al.** | **1991** | USA | Frascati (HAD) | 103 | 37.9 | 28.7 (7.1) | . | 100 | only neurological, psychiatric disorders & current substance use excluded | 1986-1989 | . | 6 |
| **Korten et al.** | **2021** | Turkey | Frascati | 162 | 45.7 (37.7, 7.4, 0.6) | 43.5'median' | 100 | 94 | only neurological, psychiatric disorders & current substance use excluded | 2018 | Istanbul | 8 |
| **Ku et al.** | **2014** | South Korea | Frascati | 194 | 26.3 (13.9, 12.4, 0) | 45.1 (21-72) | 89.7 | 93.8 | yes | 2012 | Korean NeuroAIDS Project, Seoul | 8 |
| **Kumar et al.** | **2019** | India | MMSE | 200 | 21 | . | . | 65 | unspecified | 2015-2016 | KGMU, Lucknow | 6 |
| **Kupprat et al.** | **2017** | USA | MMSE | 169 | 23.7 | 55.8 (4.6) | . | 100 | only brain injuries excluded | 2010-2011 | Project Gold | 7 |
| **Lawler et al.** | **2011** | Botswana | Frascati (uncategorised) | 60 | 36.7 | 37.5 (6.2) | 100 | 48.3 | yes | 2009 | Infectious Disease Care Clinic (IDCC) at PMH in Gaborone | 7 |
| **Lawler et al.** | **2010** | Botswana | IHDS (9.5) | 120 | 38 | 37.5 (6.5) | 97.5 | 50 | yes | 2008 | Infectious Disease Care Clinic at Princess Marina Hospital | 7 |
| **Libertone et al.** | **2014** | Italy | Frascati | 556 | 31.7 (16.4, 13.1, 2.2) | . | 100 | 78 | unspecified | . | . | 6 |
| **Lu et al.** | **2014** | Australia | Frascati | 55 | 49.1 (29.1, 12.7, 7.3) | 57.7 (8.3) | . | 96.4 | yes | 2011-2012 | HIV and Ageing Observational Cohort Study and the Neuro-HAART HIV Trials | 7 |
| **Madan, Singh & Golechha** | **1997** | India | MMSE (20) | 172 | 10.5 | 20-50 | . | . | unspecified | 1994-1996 | . | 6 |
| **Maj et al.** | **1994** | Germany, Brazil, Zaire, Kenya, Thailand | (2 SD in at least 3 out of 10 measures) | 602 | 13 | . | . | . | unspecified | . | WHO Neuropsychiatrie AIDS Study | 6 |
| **Makinson et al.** | **2020** | France | Frascati | 200 | 35.5 (24.5, 10.5, 0.5) | 62.7 (55.1-71) | . | 85 | only psychiatric disorders & CNS infections excluded | . | The ANRS EP58 HAND 55–70 Study | 8 |
| **Marin-Webb et al.** | **2016** | Germany | Frascati | 480 | 43 (20, 17, 6) | 43 (35-51) | 89 | 98.3 | yes | 2012-2014 | . | 7 |
| **Matchanova et al.** | **2020** | USA | GDS | 142 | 59.6 | 57.1 (6.2) | 88.7 | 85.2 | yes | . | greater San Diego county | 8 |
| **Mayeux et al.** | **1993** | USA | Frascati (uncategorised) | 111 | 44.1 | 41.2 (7.9) | . | 100 | unspecified | . | . | 6 |
| **McCutchan et al.** | **2007** | USA | Frascati (uncategorised) | 286 | 27 | 40'median' | 93 | 90 | no | 1999 | AIDS Clinical Trials Group (ACTG) 362, not ALLRT according to Smurzynski et al. (2008) | 7 |
| **McNamara et al.** | **2017** | Ireland | BNCS | 604 | 51.5 | 40.9 (10.2) | 84.3 | 78.8 | yes | 2010-2013 | St. James's Hospital, Dublin (SJH) | 8 |
| **Metral et al.** | **2020** | Switzerland | Frascati | 981 | 26.8 (25.4, 0.8, 0.6) | 54.5 (7.5) | . | 79.7 | no, BUT score is adjusted | 2013-2016 | NAMACO study | 7 |
| **Milanini et al.** | **2017** | USA | Frascati | 74 | 52.7 (21.6, 31.1, 0) | 67 (61-83) | 92 | 95 | yes | . | UCSF HIV Over 60 Cohort Study | 8 |
| **Milanini et al.** | **2020** | Kenya, Tanzania, Uganda, Nigeria | Frascati (uncategorised) | 2472 | 38 | 39.7 (10.7) | 68 | 41 | unspecified | . | African Cohort Study (AFRICOS) | 8 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mogambery et al.** | **2017** | South Africa | IHDS (10) | 146 | 53 | 35 (18-58) | 0 | 45.9 | only psychiatric disorders & CNS infections excluded | 2014-2015 | peri-urban HIV clinic in KwaZulu-Natal | 7 |
| **Mohamed, Oduor & Kinyanjui** | **2020** | Kenya | MoCA | 360 | 81.1 | 40.2 (11.5) | 100 | 35 | yes | . | Moi Teaching and Referral Hospital (MTRH) | 8 |
| **Molinaro et al.** | **2020** | Uganda | IHDS | 399 | 59 | 35 (8) | 0 | 53 | only neurological disorders excluded | 2013-2015 | Rakai Community Cohort Study | 8 |
| **Moore et al.** | **2012** | USA | GDS | 200 | 19 | 36.4 (28.1-43.6) | 64 | 95.5 | unspecified | . | . | 7 |
| **Mugendi et al.** | **2019** | Kenya | IHDS (10) | 345 | 12.5 | 42 (9.5) | 100 | 58.6 | yes | 2015 | HIV clinic of the Kenyatta National Hospital in Nairobi | 8 |
| **Mukherjee et al.** | **2018** | Malaysia | MoCA (26) | 342 | 22.8 | 44.7 (10.2) | 100 | 82.2 | no | 2014-2016 | University of Malaya Medical Center (UMMC) in Kuala Lumpur | 7 |
| **Munoz-Moreno et al.** | **2010** | Spain | Frascati | 83 | 42.2 (19.3, 16.9, 6) | 44 (37-51) | . | 73.5 | yes | 2006-2008 | HIV Unit of the Germans Trias i Pujol University Hospital | 7 |
| **Munoz-Moreno et al.** | **2013** | Spain | Frascati | 106 | 48 (33, 15, 0) | 44 (39-48) | 86 | 87 | no | 2008-2011 | 7 hospitals in Barcelona | 7 |
| **Munoz-Moreno et al.** | **2008** | Spain | Frascati (uncategorised) | 64 | 60.9 | . | 73.4 | 70.3 | only psychiatric disorders & subtance use excluded | . | HIV outpatient clinic of the hospital, which is located on the outskirts of Barcelona | 6 |
| **Nakku, Kinyada & Hoskins** | **2013** | Uganda | IHDS (10) | 618 | 64.4 | 35 | 64.6 | 27.3 | no | . | semi-urban district of Entebbe | 7 |
| **Namagga et al.** | **2019** | Uganda | IHDS (10) | 393 | 58.2 | 37.9 (8.6) | 100 | 26.7 | yes | 2017 | Mbarara and Rukungiri districts in rural Southwestern Uganda | 8 |
| **Naveed et al.** | **2021** | USA | T-Score (40) | 877 | 39.1 | 47.1 (10.7) | 81.1 | 80.5 | no | 2000-2017 | National NeuroAIDS Tissue Consortium (NNTC) | 7 |
| **Nichols et al.** | **2013** | USA | GDS | 215 | 64.7 | 20.9 (1.8) | 0 | 80.4 | yes | . | Adolescent Medicine Trials Network for HIV/AIDS Interventions & International Maternal Pediatric Adolescent AIDS Clinical Trials sites | 8 |
| **Njamnshi et al.** | **2008** | Cameroon | IHDS (10) | 204 | 21.1 | 37.2 (8.8) | . | 31.4 | yes | 2006 | The Day Care Hospital | 7 |
| **Nyamayaro et al.** | **2020** | Zimbabwe | GDS | 155 | 49.7 | 37.8 (11.2) | 100 | 30 | only neurological, psychiatric disorders & alcohol use excluded | 2018 | . | 8 |
| **Odiase, Ogunrin & Ogunniyi** | **2006** | Nigeria | CSID | 192 | 65.6 | 32.5 (7) | 0 | 50 | yes | 2004 | UniversityTeachingHospital,BeninCity | 8 |
| **Oshinaike et al.** | **2012** | Nigeria | MMSE (26) | 208 | 2.9 | 36.8 (8.3) | 100 | 34.1 | yes | 2007-2008 | Lagos University Teaching Hospital (LUTH) | 8 |
| **Overton et al.** | **2013** | USA | MoCA | 200 | 51 | 43.3 (10.7) | 100 | 72 | yes | . | Washington University in St. Loui | 8 |
| **Patel et al.** | **2010** | Malawi | IHDS (10) | 179 | 14 | 18-65 | 74.9 | 35.2 | only CNS infections & alcohol use excluded | 2007 | ART clinic of Queen Elizabeth Central Hospital in Blantyre | 8 |
| **Pereda et al.** | **2000** | Spain | Frascati (HAD) | 100 | 27 | 33.6 (6.2) | 51 | 71 | only substance use excluded | 1996-1997 | HIV clinic at Marques de Valdecilla University Hospital in Santander | 7 |
| **Perez-Valero et al.** | **2013** | Spain | Frascati | 191 | 27.2 (19.9, 7.3, 0) | 45 (41-48) | 100 | 73.3 | yes | 2011-2012 | HIV Units of La Paz and the Doce de Octubre Hospitals in Madrid | 8 |
| **Pinheiro et al.** | **2016** | Brazil | IHDS (10) | 392 | 54.1 | 42.8 (11.6) | 89.3 | 44.7 | yes | 2015 | Serviço de Assistência Especializada (SAE), Pelotas | 8 |

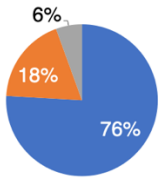
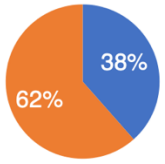
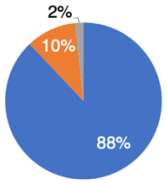
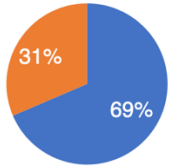
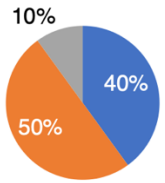
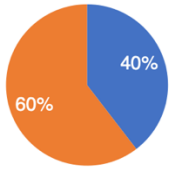
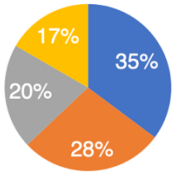
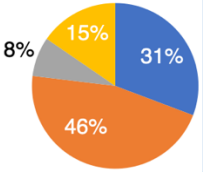
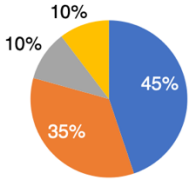
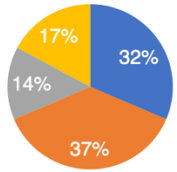
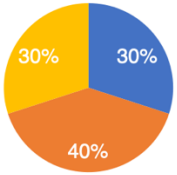
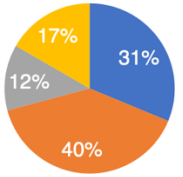
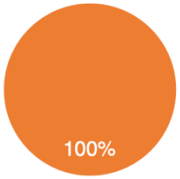
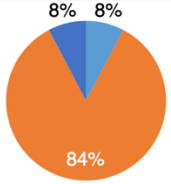
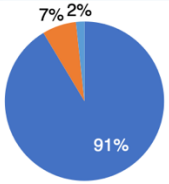
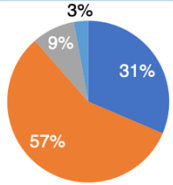
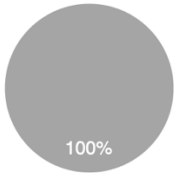
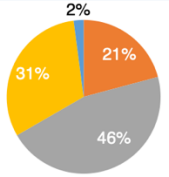
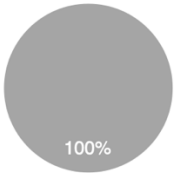
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Portilla et al.** | **2019** | Spain | Frascati | 84 | 29.8 (19, 8.3, 2.4) | 46 (7.5) | 100 | 77.4 | yes | 2014-2015 | Infectious Diseases Unit of the General University Hospital of Alicante | 8 |
| **Pumpradit et al.** | **2010** | Thailand | Frascati | 64 | 37.5 (21.9, 14.1, 1.6) | 41 (36-46) | 100 | 59.4 | only CNS infections & head injuries excluded | . | . | 6 |
| **Qiao et al.** | **2019** | China | MMSE | 669 | 12.4 | 47.7 (11.2) | 92.8 | 66.7 | no | 2017 | Comparative HIV and Aging Research in Taizhou (CHART) | 7 |
| **Robbins et al.** | **2011** | South Africa | IHDS (10) | 65 | 80 | 38.5 (9.3) | 100 | 35.4 | only psychiatric disorders excluded | . | general medical clinic in the Western Cape Region of South Africa | 6 |
| **Robertson et al.** | **2019** | Brazil, India, Malawi, Peru, South Africa, Thailand, Zimbabwe | Frascati (uncategorised) | 860 | 45 | 34'median' | 0 | 47.7 | only psychiatric disorders excluded | . | AIDS Clinical Trials Group (ACTG) 5175, not ALLRT according to Smurzynski et al. (2008) | 8 |
| **Robertson et al.** | **2014** | Canada | BNCS | 2863 | 41.5 | 43 (19-83) | 68.8 | 61.7 | only opportunistic infections & substance use excluded | 2010-2011 | MULTICENTER study: CRANIUM study | 8 |
| **Rodrigues et al.** | **2013** | Brazil | Frascati (uncategorised) | 187 | 52.4 | 44'median' | 61.5 | 53.5 | yes | . | . | 7 |
| **Ruhanya et al.** | **2020** | South Africa | GDS | 147 | 36.7 | 31.5 (5.2) | 17.8 | 16.6 | unspecified | . | primary care HIV-1 clinics in Cape Town | 7 |
| **Sacktor et al.** | **2016** | USA | Frascati | 364 | 33 (14, 14, 5) | 47.4 (8.9) | 74.7 | 100 | yes | 2007 | Multicenter AIDS Cohort Study | 8 |
| **Sacktor et al.** | **2014** | Uganda | Frascati | 117 | 92 (19, 32, 41) | 36.7 (5.3) | 0 | 33.3 | yes | 2009-2010 | Infectious Disease Clinic in Kampala | 8 |
| **Saini & Barar** | **2016** | India | IHDS | 80 | 32.5 | 21-50 | 100 | 56.3 | only psychiatric disorders & substance use excluded | 2011-2012 | ART Centre of PBM and AG Hospital, Bikaner, Rajasthan | 7 |
| **Salahuddin et al.** | **2020** | Ethiopia | IHDS (10) | 244 | 39.3 | . | . | 36 | only neuropsychiatric medications excluded | 2018 | Mizan-Tepi University Teaching Hospital (MTUTH), Aman | 7 |
| **Salawu et al.** | **2008** | Nigeria | Frascati (uncategorised) | 60 | 56.7 | 32 (7.6) | 0 | 40 | only psychiatric disorders, head injuries & history of substance use excluded | . | . | 6 |
| **Sanmarti et al.** | **2020** | Tanzania | Frascati (uncategorised) | 243 | 19.3 | 44.3 (36-52) | 100 | 29 | yes | . | Chronic Diseases Clinic of Ifakara (CDCI) | 8 |
| **Sereia et al.** | **2012** | Brazil | MMSE | 100 | 27 | 20-64 | 100 | 62 | no | . | Parana | 7 |
| **Sevigny et al.** | **2007** | USA | Frascati (uncategorised) | 329 | 68.5 | 41.9 (7.2) | 76.8 | 68.6 | only neurologic disorders, psychiatric disorders & CNS infections excluded | 1998-2002 | Northeast AIDS Dementia Study cohort | 8 |
| **Sheppard et al.** | **2015** | USA | Frascati (uncategorised) | 75 | 16 | 56.4 (5.9) | 100 | 84 | yes | . | greater San Diego community and local, urban HIV clinics | 7 |
| **Simioni et al.** | **2010** | Switzerland | Frascati | 200 | 84 (24, 52, 8) | 46 (30-69.6) | 100 | 72 | only CNS infections & substance use excluded | . | Lausanne and Geneva University hospitals | 7 |
| **Spector et al.** | **2010** | China | GDS | 201 | 36.8 | 40.2 (6.4) | 56.7 | 60.7 | yes, BUT 93% HCV COINFECTION | . | Anhui | 8 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Starace et al.** | **2002** | Italy | Gisslen (uncategorised) | 395 | 17.9 | 35.2 (8.1) | 100 | 67.8 | only psychiatric disorders excluded | 1999-2000 | NeuroICONA study | 8 |
| **Stern et al.** | **1991** | USA | Frascati (uncategorised) | 124 | 58.1 | 38.4 (8.2) | . | 100 | unspecified | . | . | 6 |
| **Su et al.** | **2016** | Netherlands | MNC | 103 | 17 | 54 (48-61) | 100 | 100 | yes | 2011-2013 | AGEhIV Cohort Study | 7 |
| **Suarez et al.** | **2001** | France | MMSE | 91 | 58.2 | 38 (25-54) | 87.9 | 85.7 | yes | 1995-1999 | Paris University Hospital | 7 |
| **Sundermann et al.** | **2018** | USA | GDS | 1361 | 42.7 | 42.6 (9.9) | 67.5 | 85 | yes | . | UCSD HRNP (HIV Neurobehavioral Research Program) | 8 |
| **Tamargo et al.** | **2021** | USA | MMSE (24) | 394 | 14.7 | 53.9 (7.9) | . | 53.6 | no | 2016-2020 | MASH cohort | 6 |
| **Temereanca et al.** | **2020** | Romania | GDS | 214 | 35 | 24, 19-29 | 100 | 48 | unspecified | 2012-2014 | . | 7 |
| **Thiyagarajan et al.** | **2010** | UK | Frascati (uncategorised) | 72 | 18 | 47 (10) | 97 | 83.3 | only neurological & substance use excluded, 37.5% HCV COINFECTION | . | St Mary's Hospital, London | 7 |
| **Tilghman et al.** | **2014** | India | GDS | 155 | 36.1 | 34.5 (7.2) | 0 | 57.1 | yes | . | National AIDS Research Institute (NARI) in Pune | 8 |
| **Tomita et al.** | **2019** | South Africa | IHDS (10) | 151 | 43.5 | 21-59 | 100 | 15.2 | only substance use excluded, 100% MDR-TB | 2015-2016 | TB-specialist hospital in KwaZulu-Natal (KZN) Province | 8 |
| **Tozzi et al.** | **2005** | Italy | Frascati (uncategorised) | 412 | 54.4 | . | 59.7 | 71.1 | yes | 1996-2004 | Infectious Diseases Lazzaro Spallanzani, Rome | 8 |
| **Tremont-Lukats, Teixeira & Hernandez** | **1999** | Venezuela | MMSE (24) | 75 | 36 | 34, 18-57 | 0 | 92 | only neurological & substance use history excluded | . | Hospital Vargas de Caracas, Venezuela | 7 |
| **Troncoso & de Oliveira Contero** | **2015** | Brazil | IHDS (10) | 111 | 52.2 | 46.7 (11.6) | 87.7 | 56.8 | only opportunistic infections excluded | 2013 | Infectious Diseases of the Faculdade de Medicina de Marília (FAMEMA), Marília City, State of São Paulo | 7 |
| **Trunfio et al.** | **2018** | Italy | Frascati | 650 | 21.6 (15.7, 4.9, 1) | 50 (42-58) | 89.1 | 76.3 | yes | 2010-2017 | Amedeo di Savoia Hospital, Turin | 8 |
| **Tsegaw et al.** | **2017** | Ethiopia | IHDS (9.5) | 593 | 36.4 | 38.6 (10.6) | 100 | 47.9 | only psychiatric disorders excluded | . | Dessie Referral Hos- pital (DRH) and Kombolcha Health Center (KHC) HIV care clinic | 8 |
| **Underwood et al.** | **2019** | UK | NMM | 639 | 21.4 | 57 (53-62) | 98.8 | 88.6 | no | . | POPPY study (COBRA and CHARTER excluded since separate larger cohort analysis available) | 8 |
| **Valcour et al.** | **2013** | Thailand | Frascati | 61 | 45.9 (22.9, 13.1, 9.9) | 34.7 (6.9) | 0 | 43 | yes | 2009-2011 | . | 7 |
| **Valcour et al.** | **2004** | USA | adpated MSK staging | 202 | 19.7 | 45.6 (11.3) | 72.7 | 82.8 | only neurological & psychiatric disorders excluded | 2001 | Hawaii Aging with HIV Cohort Study | 8 |
| **van den Dries et al.** | **2017** | Netherlands | GDS | 69 | 40.6 | 53 (11) | . | 82.6 | only neurological disorders excluded | 2012-2013 | The Dutch TREVI Cohort Study | 7 |
| **van Gorp et al.** | **1999** | USA | Frascati (HAD) | 130 | 16.2 | 41 (8) | . | 100 | unspecified | 1995 | . | 6 |
| **Vassallo et al.** | **2015** | France | Frascati | 204 | 29.9 (20.1, 7.8, 2) | 51.9 (10.1) | . | 77.5 | only neurological disorders & opportunistic infections excluded | 2007-2013 | Neuradapt & Eldadapt studies | 8 |
| **Vergori et al.** | **2019** | Italy | Frascati | 542 | 22.7 (16.2, 5.7, 0.7) | 49 (42-56) | 96.7 | 81 | yes | 2011-2016 | . | 8 |

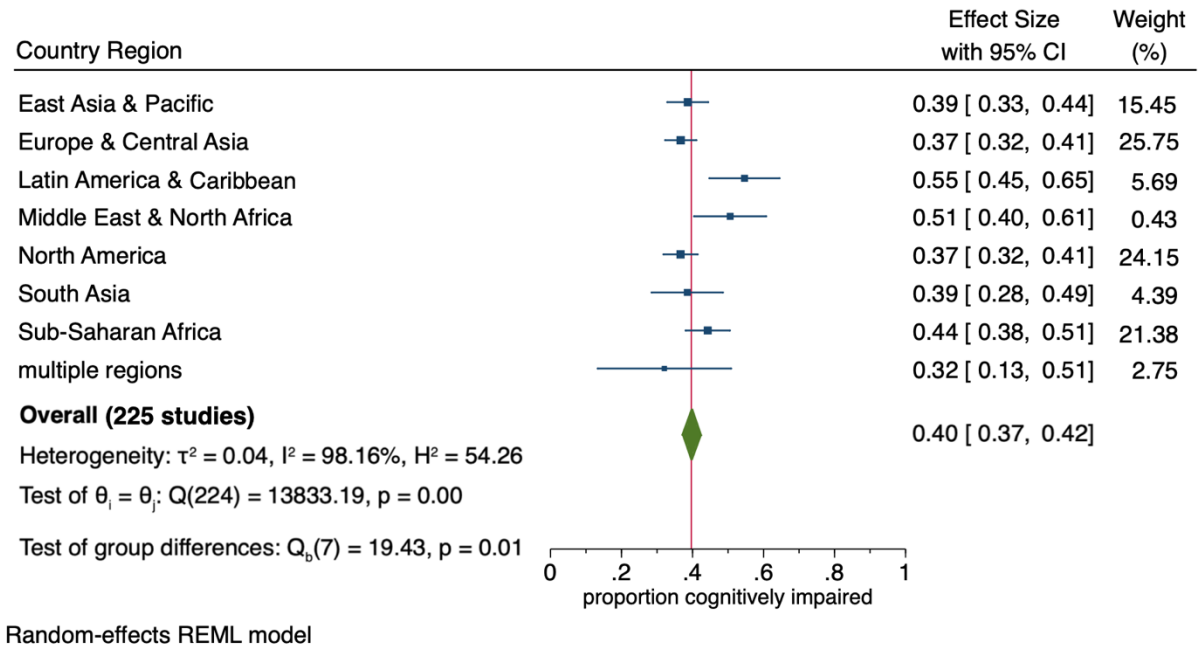
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Villa et al.** | **1996** | Italy | (2 SD in at least 5 out of 24 measures) | 78 | 28.2 | 32.3 (6.9) | . | 64.1 | yes | . | . | 6 |
| **Vitiello et al.** | **2007** | USA | GDS | 179 | 19 | 39.6 (7.5) | 67 | 96.1 | only psychiatric disorders & subtance use excluded | 1991-1994 | . | 7 |
| **Wang et al.** | **2019** | USA | MNC | 1531 | 7.45 | 38.6 (8.4) | . | 100 | no | . | Multicenter AIDS Cohort Study | 7 |
| **Wang et al.** | **2013** | China | MoCA | 309 | 48.2 | 34 (28-43.5) | 76.4 | 88 | only neurological disorders & substance use excluded | 2012-2013 | Shanghai Public Health Clinical Center | 8 |
| **Widyadharma et al.** | **2017** | Indonesia | MMSE (25) | 96 | 33.3 | 15-49 | 77.1 | 68.8 | yes | 2008-2009 | Edelweiss Clinic Dr. Sardjito Hospital | 7 |
| **Wilkins et al.** | **1991** | USA | (below defined cut-offs in at least 2 out of 10 measures) | 77 | 36.4 | 33.5 (8.3) | . | 92.2 | yes | . | . | 6 |
| **Winston et al.** | **2013** | UK | Frascati (uncategorised) | 557 | 51.2 | 44 (9) | 100 | 77 | no | . | PIVOT study | 8 |
| **Wojna et al.** | **2007** | Puerto Rico | Frascati | 60 | 68.4 (30, 11.7, 26.7) | 36.4 (7) | 80 | 0 | only neurological disorders excluded | . | NeuroAIDS Specialized Neuroscience Research Program (SNRP) | 8 |
| **Wright et al.** | **2015** | Australia, Thailand, Brazil, Argentina, Chile, USA, UK, Belgium, Italy, Switzerland & Germany | Frascati (uncategorised) | 608 | 19.9 | 34'median' | 0 | 89 | no | . | MULTICENTER START study | 7 |
| **Wright et al.** | **2008** | Thailand, China, Indonesia, Malaysia, Cambodia, Papua New Guinea, Fiji | Frascati (HAD) | 647 | 11.7 | 35.9 (9.5) | 65 | 59.3 | no | 2005-2006 | MULTISITE Asia Pacific NeuroAIDS Consortium (APNAC) | 8 |
| **Wubetu, Asefa & Gebregiorgis** | **2021** | Ethiopia | MMSE (25) | 422 | 41 | 20-64 | 100 | 39.8 | no | 2019-2020 | public hospitals of North Shoa Zone | 8 |
| **Xiao et al.** | **2020** | China | MoCA (26) | 250 | 87.2 | 65.7 (5.73) | 100 | 70.8 | only psychiatric disorders, sensory impairments & head injuries exluded | 2017 | Hunan province's main HIV clinics | 8 |
| **Yakasai et al.** | **2015** | Nigeria | Frascati | 80 | 76.3 (41.3, 23.8, 11.3) | 36.8 (8.9) | 50 | 55 | yes | . | Aminu Kano Teaching Hospital (AKTH) in Northwestern Nigeria | 8 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Yechoor et al.** | **2016** | Uganda | GDS | 181 | 38 | 36 (27-41) | 80.1 | 42 | only neurological & psychiatric disorders excluded | 2011 | Mulago Hospital of Makerere University in Kampala | 8 |
| **Yideg et al.** | **2019** | Ethiopia | IHDS (10) | 328 | 35.7 | 38.2 (10.5) | 100 | 41.8 | yes | 2018 | Jimma University Medical Center (JUMC), Jimma | 8 |
| **Yusuf et al.** | **2017** | Nigeria | Frascati | 418 | 21.5 (9.6, 9.1, 2.9) | 37.2 (9.3) | 100 | 22.3 | no | . | Ahmadu Bello University Teaching Hospital (ABUTH), Zaria | 8 |
| **Zaegel-Faucher et al.** | **2020** | France | Frascati | 121 | 57 (28.9, 24.8, 3.3) | 53.1'median' | . | 68 | yes | 2011-2018 | . | 6 |
| **Zamudio-Rodiguez et al.** | **2018** | Mexico | Frascati | 206 | 66 (60.2, 5.8, 0) | 60.5 (6.3) | 100 | 84.9 | only conditions that may be mistaken as physical frailty excluded | 2014-2016 | ambulatory care at the HIV clinic of a university-affiliated tertiary care center in Mexico City | 8 |
| **Zhang et al.** | **2012** | China | Frascati | 134 | 37.3 (22.4, 10.4, 4.5) | 38.6 (9.5) | 73.1 | 56.7 | yes | . | Infectious Diseases Hospital of Henan Province, Infectious Diseases Hospital of Yunnan Province & Beijing You An Hospital | 8 |
| **Zhao et al.** | **2015** | China | Frascati | 230 | 37.4 (18.3, 10.9, 8.3) | 49.2 (10.2) | 97.8 | 66.1 | yes | . | Fourth People's Hospital of Nanning and Guangxi Longtan Hospital | 8 |

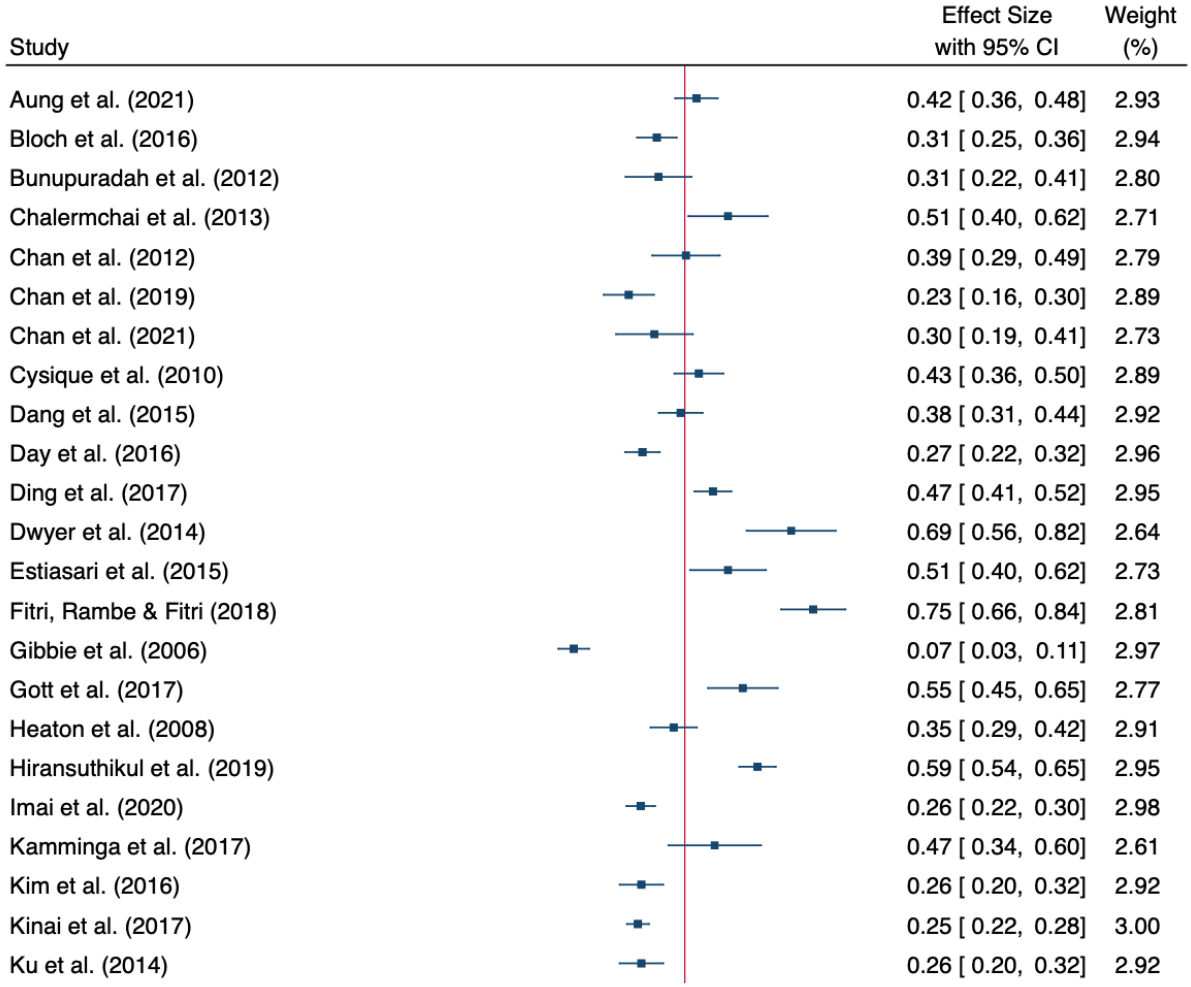
**Supplementary Table 2: Raw data summary.** The table summarizes the characteristics of the 225 eligible studies for meta-analysis. Table made using PowerPoint.

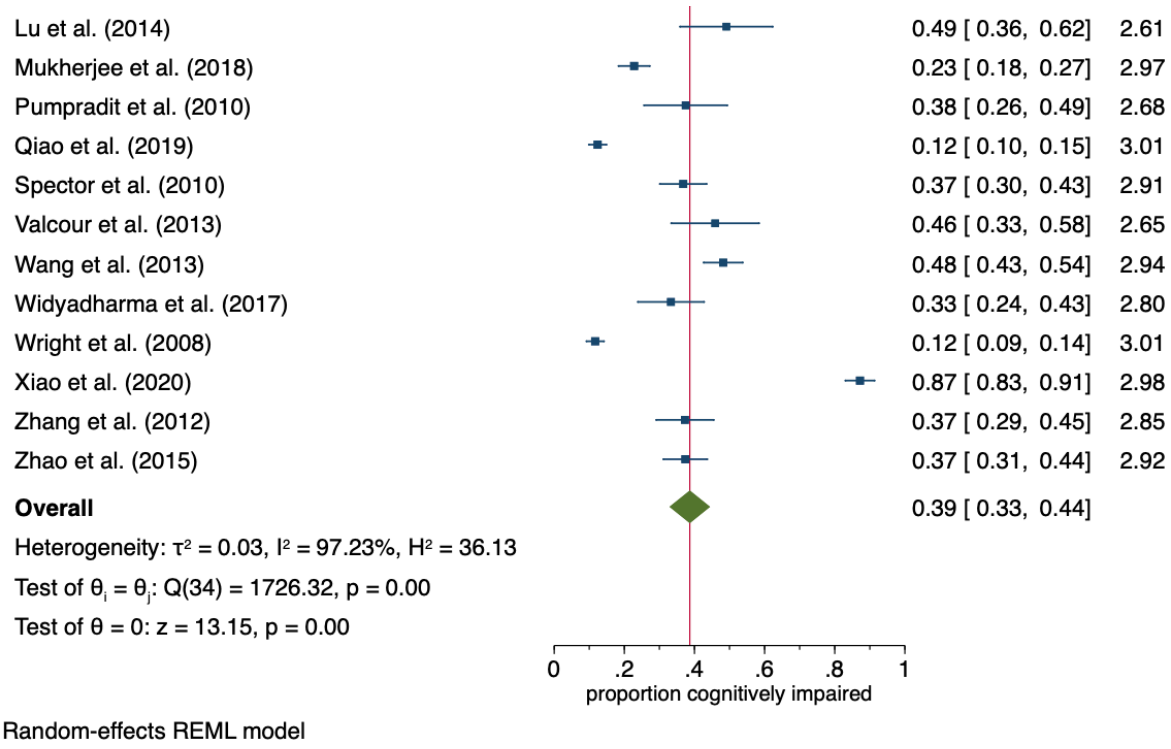
| | North America | Latin America & Carribean | Europe & Central Asia | East Asia & Pacific | South Asia | Sub-Saharan Africa | Middle East & North Africa |
|---|---|---|---|---|---|---|---|
| **no. of studies** | 54 | 13 | 58 | 35 | 10 | 48 | 1 |
| **publishing years (range)** | 1989 – 2021 | 1999 – 2020 | 1994 – 2021 | 2006 – 2021 | 1997– 2020 | 2006 – 2021 | 2020 |
| **countries (no. of studies)** | USA (48), Canada (6) | Puerto Rico (1), Venezuela (1), Mexico (1), Brazil (10) | Switzerland (4), Netherlands (3), France (5), Italy (19), Germany (2), UK (10), Spain (8), Belarus (1), Denmark (1), Portugal (2), Romania (2), Ireland (1), Norway (1), Serbia (1), Turkey (1) | Indonesia (4), South Korea (2), Singapore (1), Japan (2), Malaysia (2), Thailand (7), Australia (6), South Korea (2), China (14) | India (10) | Tanzania (3), South Africa (8), Malawi (2), Kenya (4), Nigeria (10), Botswana (2), Uganda (7), Cameroon (2), Ethiopia (7), Ghana (1), Zimbabwe (1), Zambia (4) | Iran (1) |
| **net sample size** | 20,074 | 2,078 | 13,894 | 7,704 | 1,494 | 13,662 | 93 |
| **assessment type**<br>diagnostic<br>screening<br>other |  |  |  |  |  |  |  |
| **exclusion criteria**<br>yes<br>partial<br>no<br>unspecified |  |  |  |  |  |  |  |
| **income level**<br>high income<br>upper middle income<br>lower middle income<br>low income<br>mixed / unclassified |  |  |  |  |  |  |  |
| **age range** | 16 – 83<br>*not reported in 2 studies | 18 – 81 | 18 – 84<br>*not reported in 4 studies | 18 – 83 | 18 – 74<br>*not reported in 1 study | 18 – 75<br>*not reported in 2 studies | 18 – 64 |
| **ART coverage** | 76.2%<br>*not reported in 17 studies | 85.8%<br>*not reported in 2 studies | 92.8%<br>*not reported in 11 studies | 78.1%<br>*not reported in 6 studies | 59.4%<br>*not reported in 2 studies | 75.3%<br>*not reported in 4 studies | 92.5% |
| **male gender** | 80.7% | 57.7% | 78.2% | 73.9%<br>*not reported in 2 studies | 62.4%<br>*not reported in 1 study | 37.4% | 60.2% |

**Supplementary Figure 1: Forest plot of study subgroups by geographical region (country).** The subgroup "multiple regions" refers to multi-site studies. Figure made using STATA.

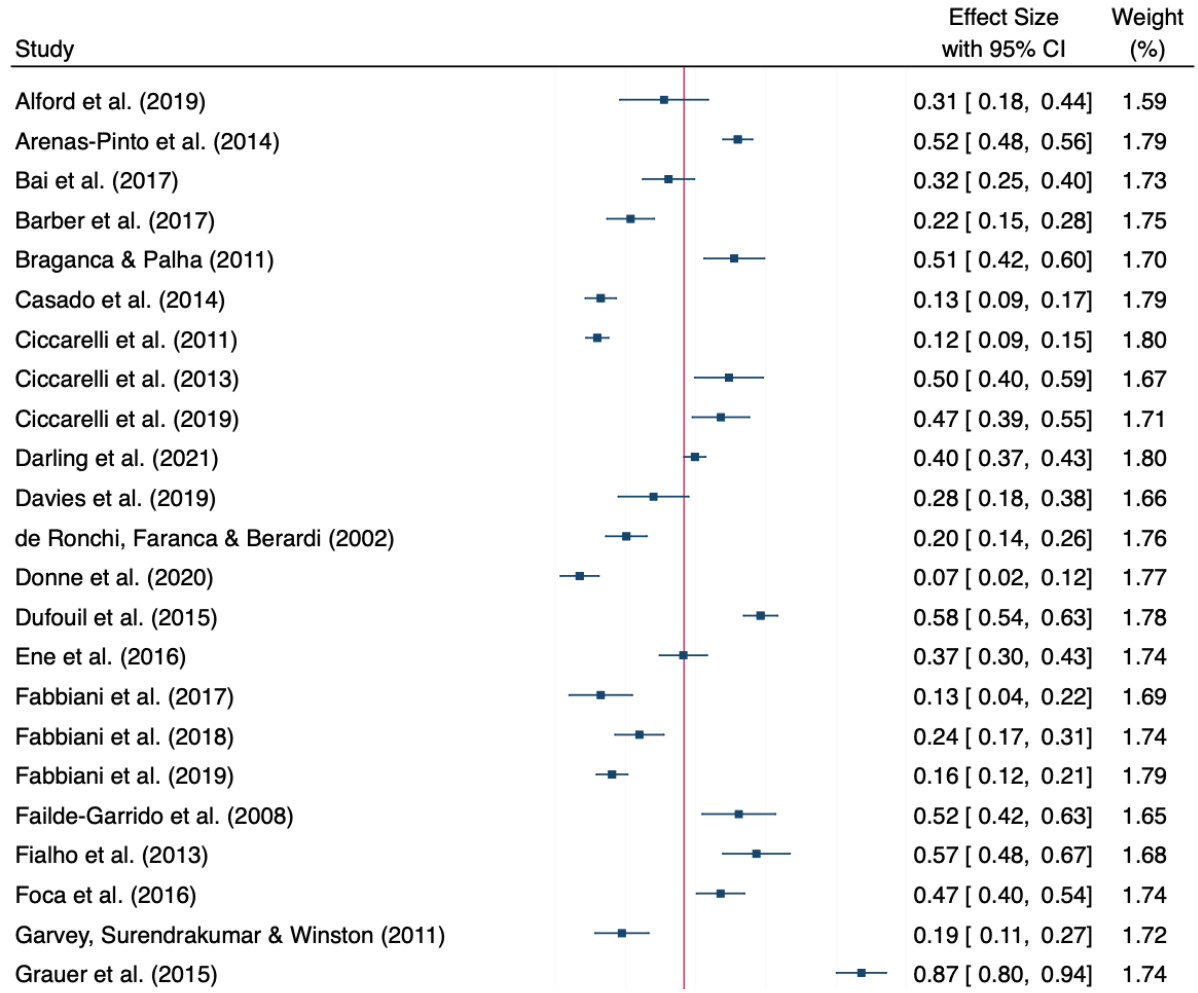


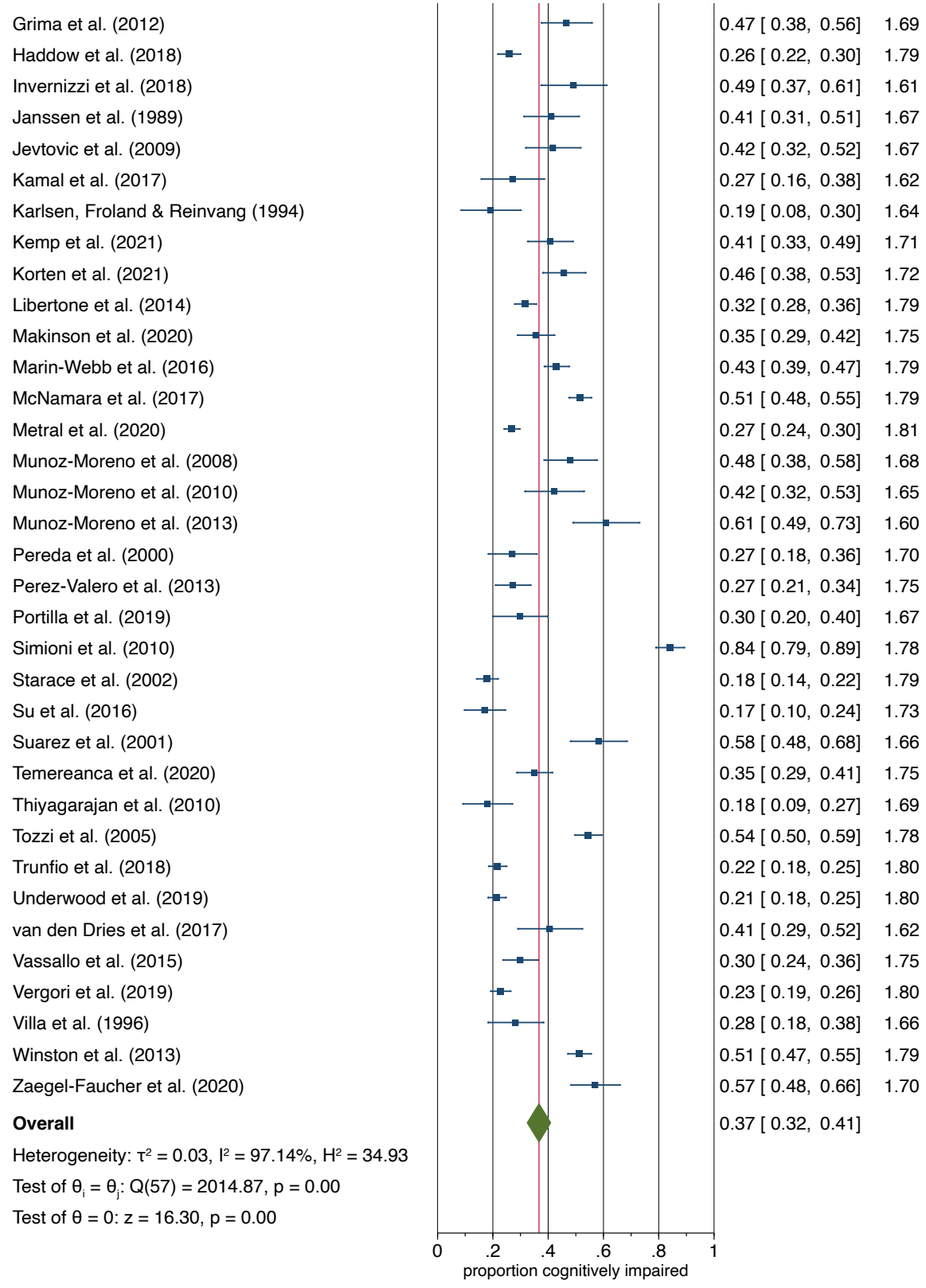

**Supplementary Figure 2: Forest plot including studies from East Asia & Pacific.**





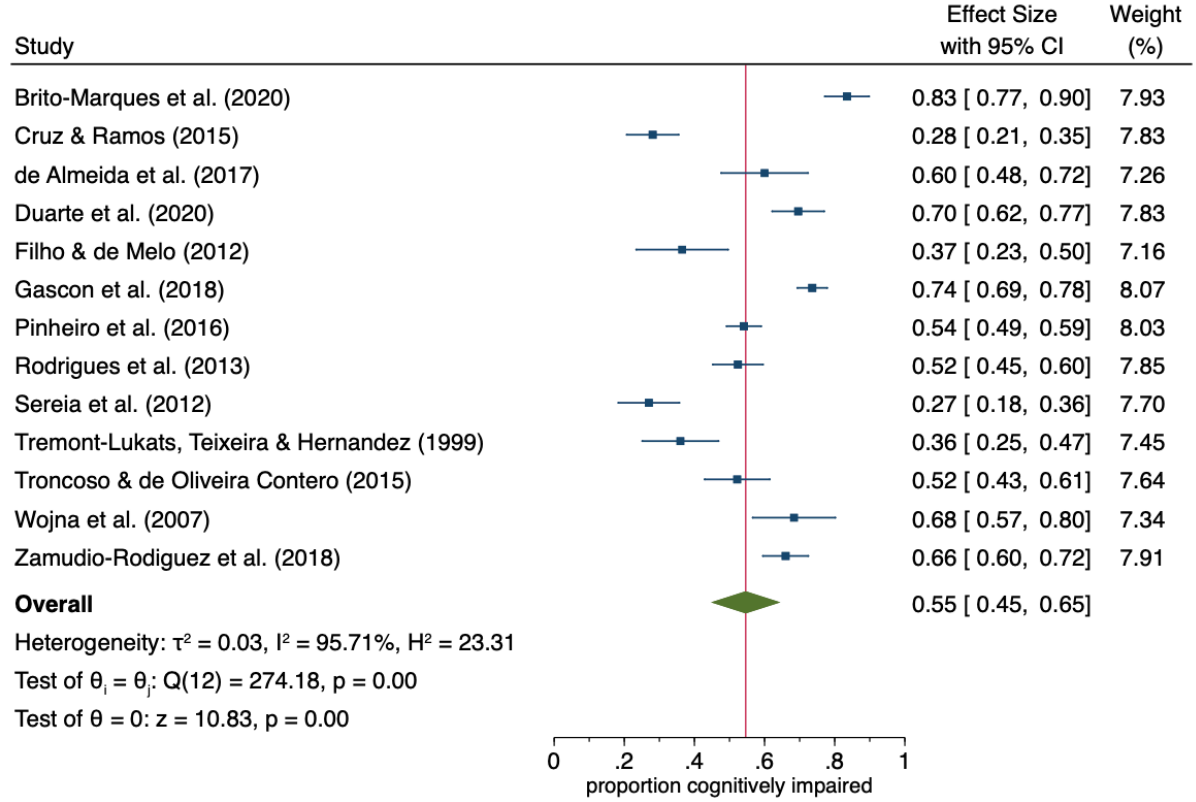

**Supplementary Figure 3: Forest plot including studies from Europe & Central Asia.**





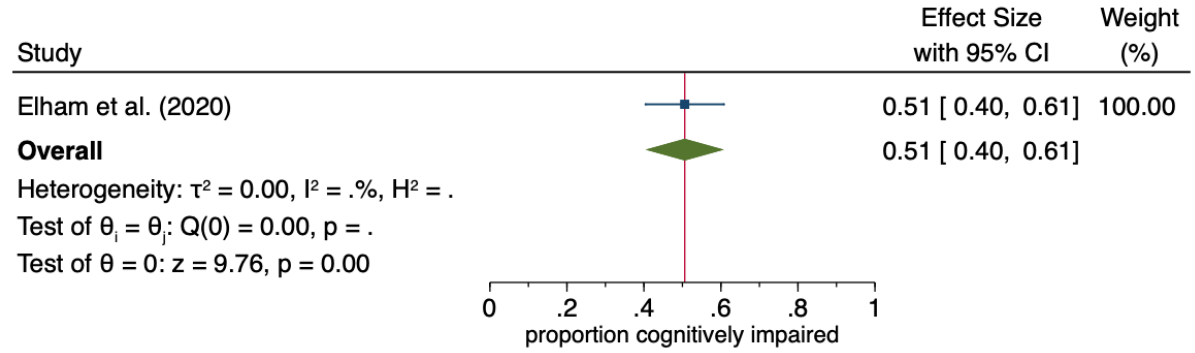

Random-effects REML model

**Supplementary Figure 4: Forest plot including studies from Latin America & Caribbean.**



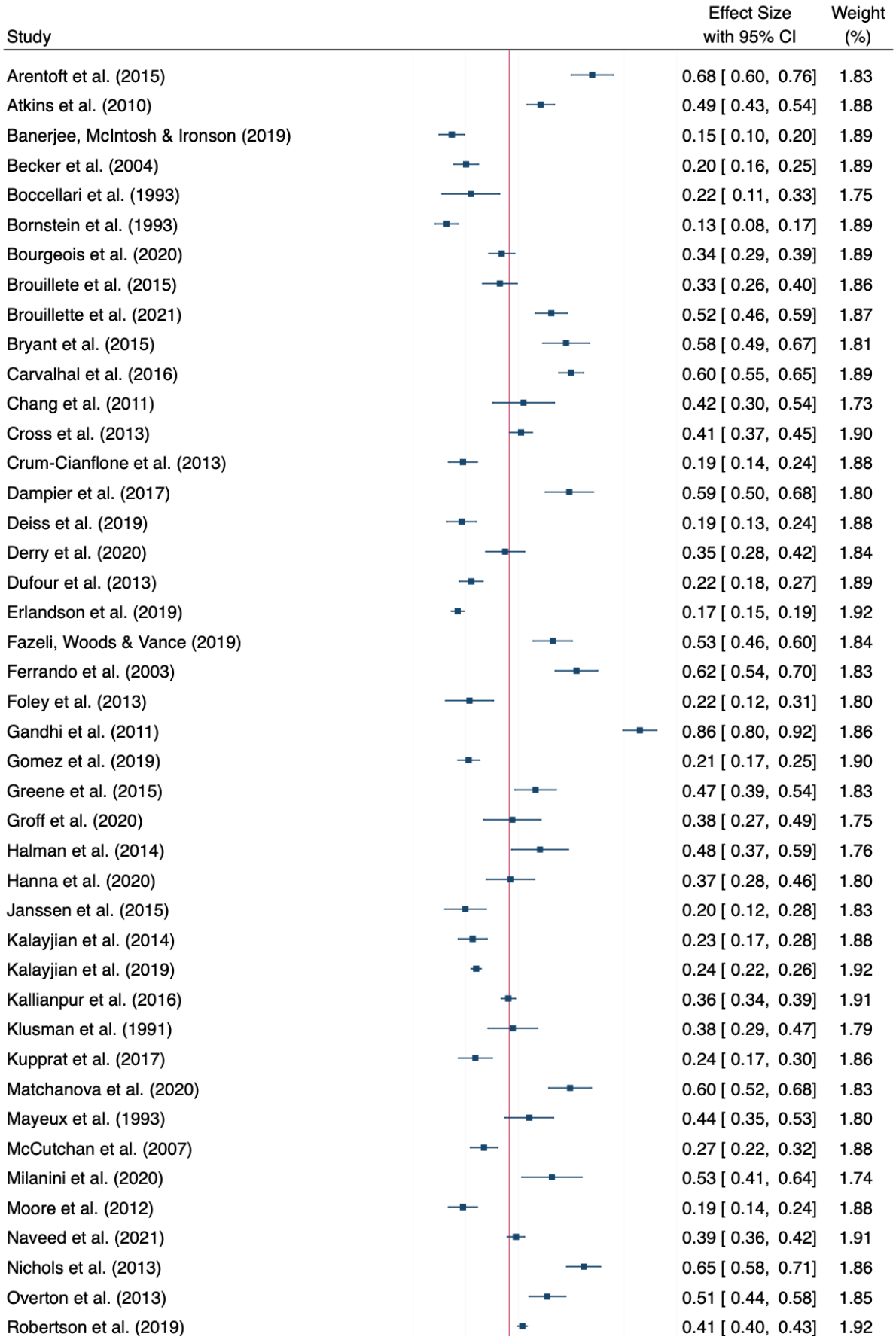

Random-effects REML model

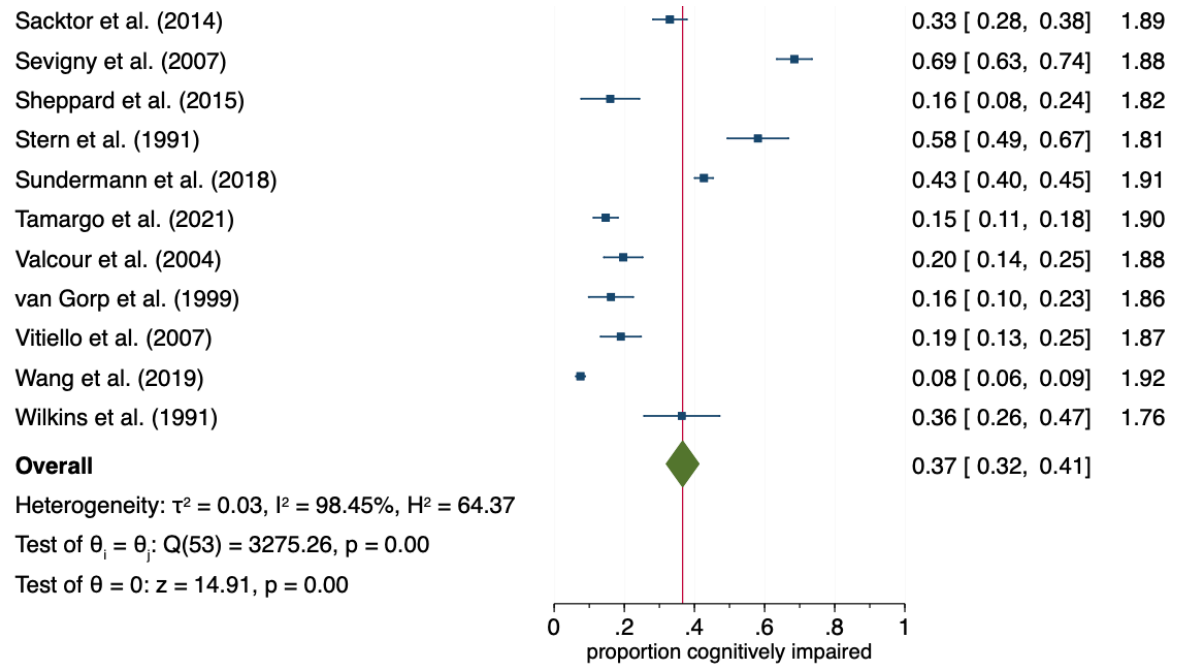
**Supplementary Figure 5: Forest plot including studies from Middle East & North Africa.**



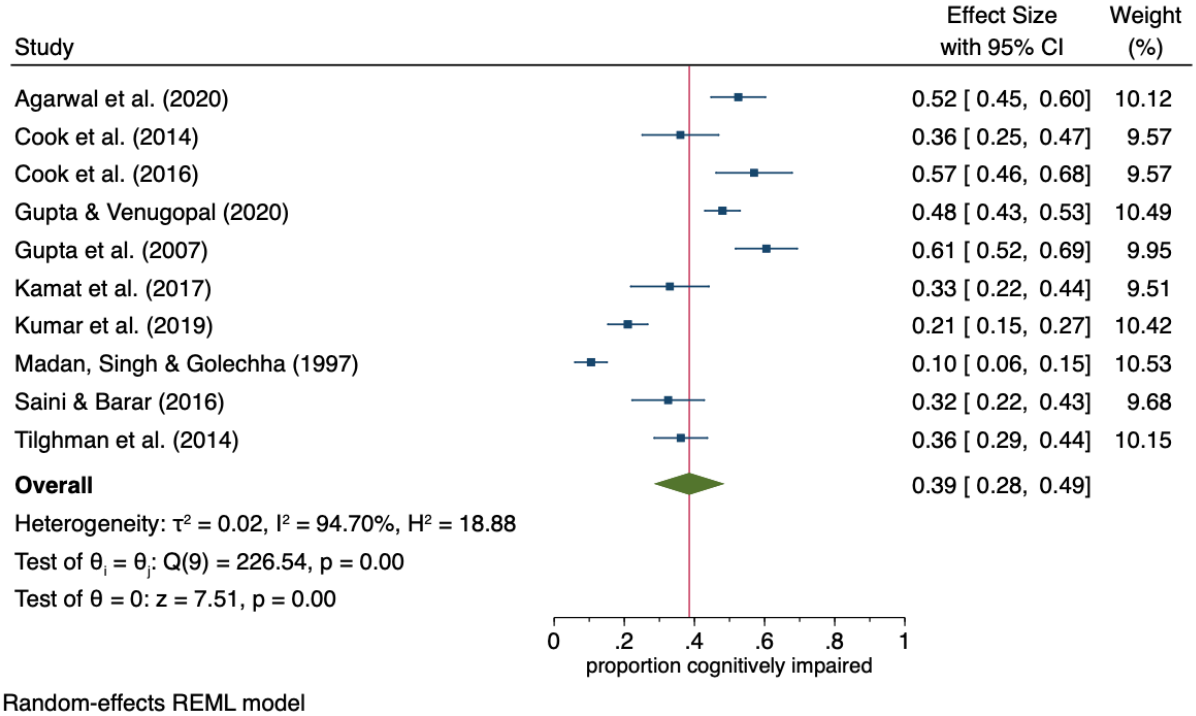

Random-effects REML model

**Supplementary Figure 6: Forest plot including studies from North America.**

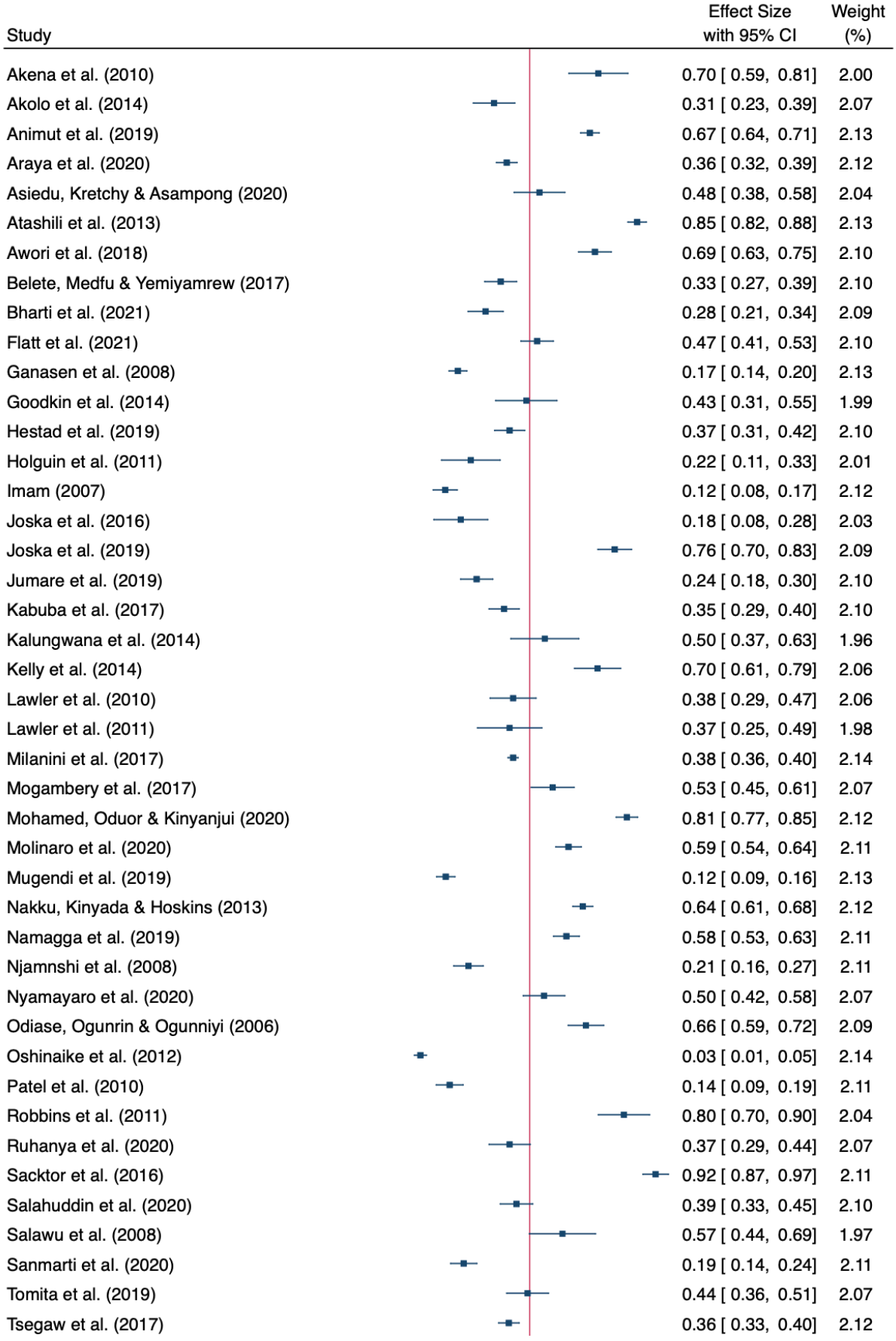


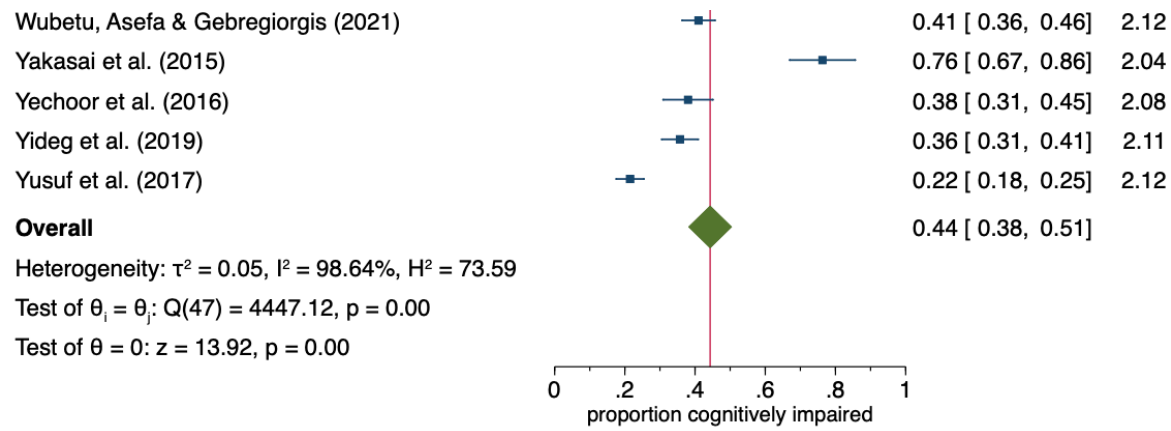



**Supplementary Figure 7: Forest plot including studies from South Asia.**



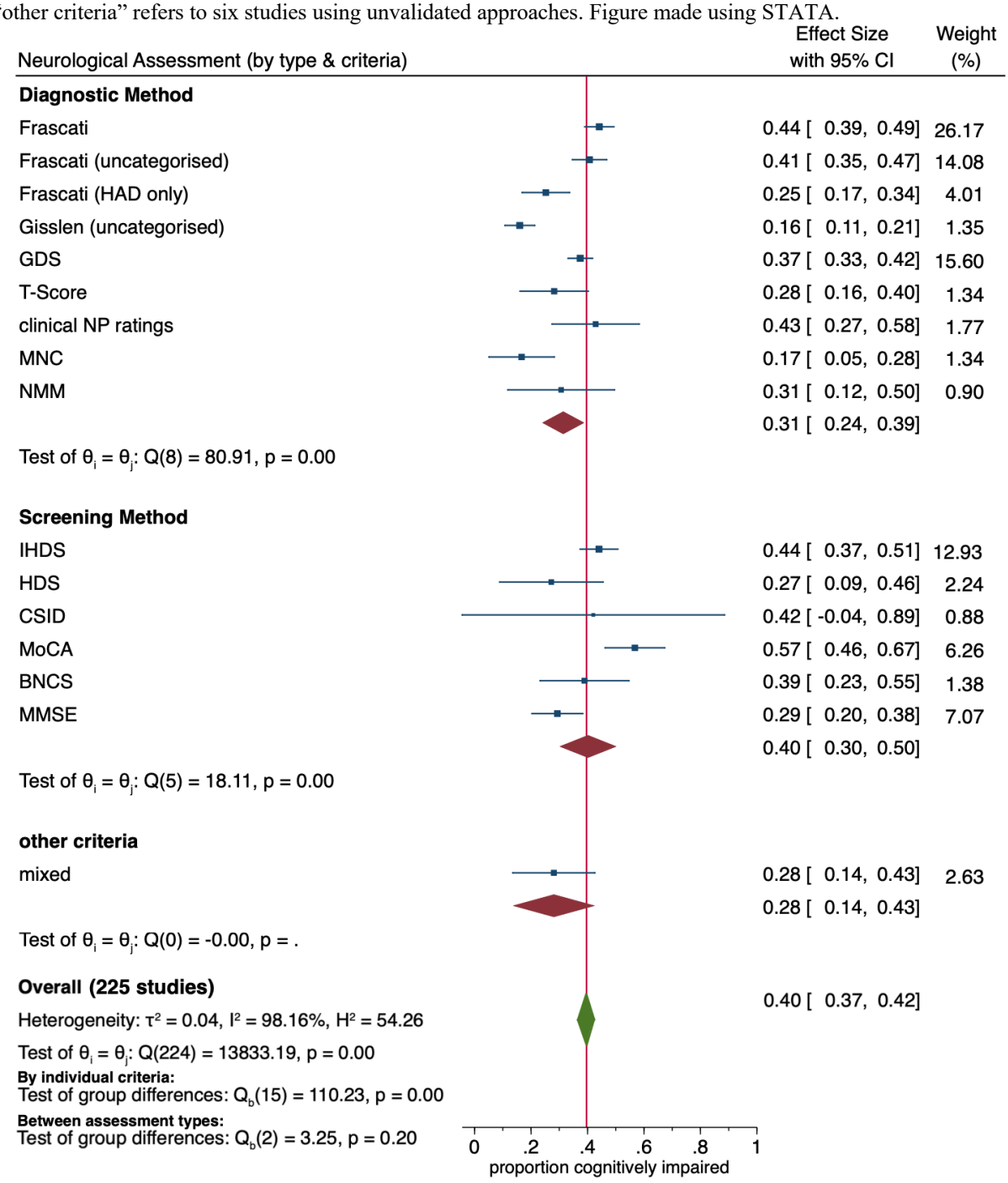
**Supplementary Figure 8: Forest plot including studies from Sub-Saharan Africa.**



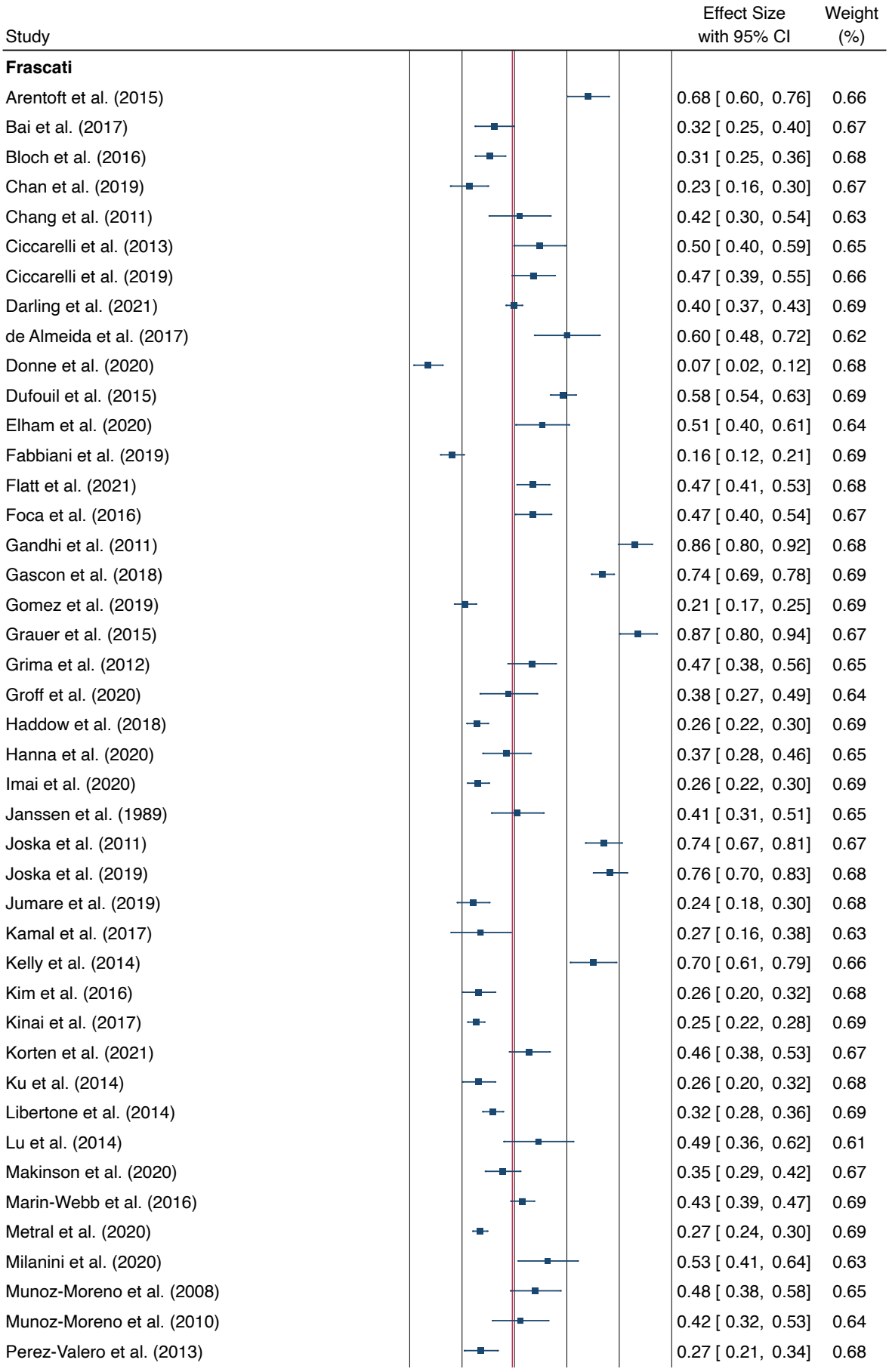


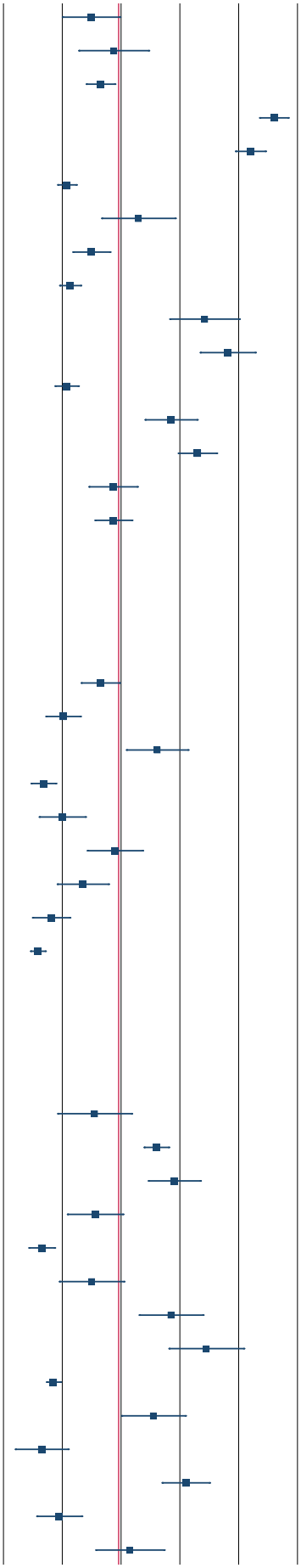

Random-effects REML model

**Supplementary Figure 9: Forest plot of study subgroups by neurological assessment type.** The subgroup "other criteria" refers to six studies using unvalidated approaches. Figure made using STATA.

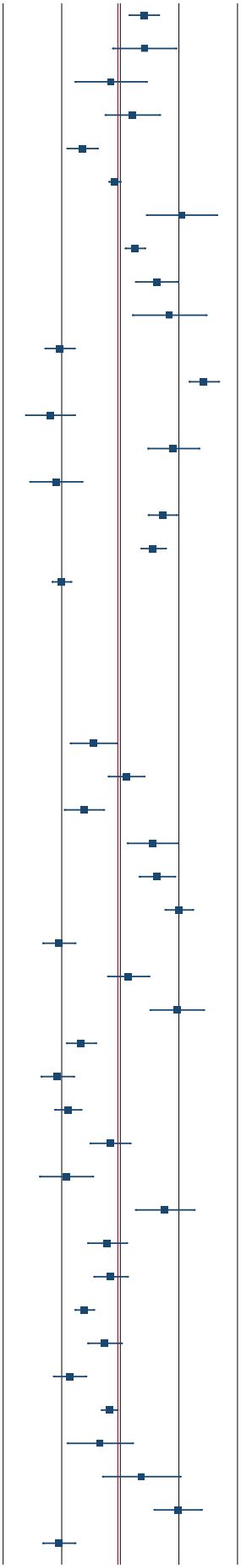


**Supplementary Figure 10: Forest plot including studies categorised as a diagnostic method.**

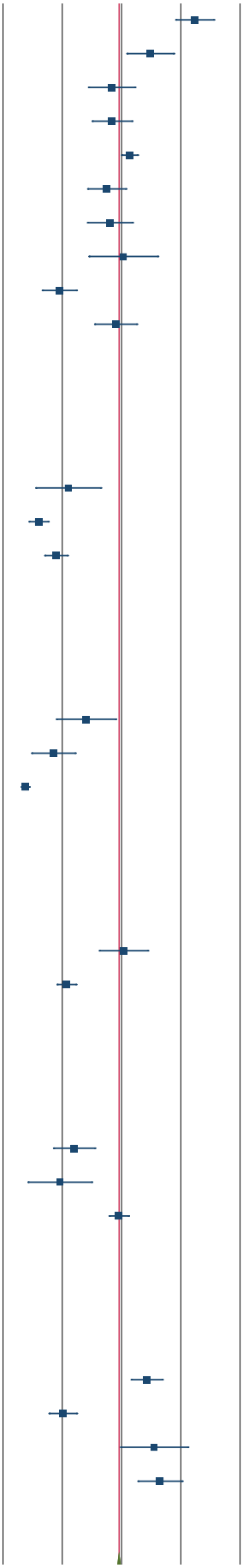




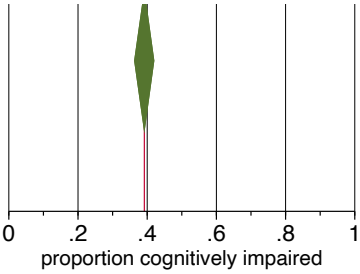
| | | |
|---|---|---|
| Portilla et al. (2019) | 0.30 [ 0.20, 0.40] | 0.65 |
| Pumpradit et al. (2010) | 0.38 [ 0.26, 0.49] | 0.63 |
| Sacktor et al. (2014) | 0.33 [ 0.28, 0.38] | 0.69 |
| Sacktor et al. (2016) | 0.92 [ 0.87, 0.97] | 0.69 |
| Simioni et al. (2010) | 0.84 [ 0.79, 0.89] | 0.68 |
| Trunfio et al. (2018) | 0.22 [ 0.18, 0.25] | 0.69 |
| Valcour et al. (2013) | 0.46 [ 0.33, 0.58] | 0.62 |
| Vassallo et al. (2015) | 0.30 [ 0.24, 0.36] | 0.68 |
| Vergori et al. (2019) | 0.23 [ 0.19, 0.26] | 0.69 |
| Wojna et al. (2007) | 0.68 [ 0.57, 0.80] | 0.63 |
| Yakasai et al. (2015) | 0.76 [ 0.67, 0.86] | 0.65 |
| Yusuf et al. (2017) | 0.22 [ 0.18, 0.25] | 0.69 |
| Zaegel-Faucher et al. (2020) | 0.57 [ 0.48, 0.66] | 0.66 |
| Zamudio-Rodiguez et al. (2018) | 0.66 [ 0.60, 0.72] | 0.68 |
| Zhang et al. (2012) | 0.37 [ 0.29, 0.45] | 0.66 |
| Zhao et al. (2015) | 0.37 [ 0.31, 0.44] | 0.68 |
| Heterogeneity: $\tau^2$ = 0.04, $I^2$ = 97.92%, $H^2$ = 48.02 | 0.44 [ 0.39, 0.49] | |
| Test of $\theta_i = \theta_j$: Q(58) = 2969.35, p = 0.00 | | |
| **Frascati (HAD)** | | |
| Brouillete et al. (2015) | 0.33 [ 0.26, 0.40] | 0.68 |
| de Ronchi, Faranca & Berardi (2002) | 0.20 [ 0.14, 0.26] | 0.68 |
| Failde-Garrido et al. (2008) | 0.52 [ 0.42, 0.63] | 0.64 |
| Grund et al. (2013) | 0.14 [ 0.09, 0.18] | 0.69 |
| Janssen et al. (2015) | 0.20 [ 0.12, 0.28] | 0.66 |
| Klusman et al. (1991) | 0.38 [ 0.29, 0.47] | 0.65 |
| Pereda et al. (2000) | 0.27 [ 0.18, 0.36] | 0.66 |
| van Gorp et al. (1999) | 0.16 [ 0.10, 0.23] | 0.68 |
| Wright et al. (2008) | 0.12 [ 0.09, 0.14] | 0.70 |
| Heterogeneity: $\tau^2$ = 0.02, $I^2$ = 94.90%, $H^2$ = 19.60 | 0.25 [ 0.17, 0.34] | |
| Test of $\theta_i = \theta_j$: Q(8) = 113.01, p = 0.00 | | |
| **Frascati (uncategorised)** | | |
| Alford et al. (2019) | 0.31 [ 0.18, 0.44] | 0.62 |
| Arenas-Pinto et al. (2014) | 0.52 [ 0.48, 0.56] | 0.69 |
| Bryant et al. (2015) | 0.58 [ 0.49, 0.67] | 0.66 |
| Bunupuradah et al. (2012) | 0.31 [ 0.22, 0.41] | 0.65 |
| Casado et al. (2014) | 0.13 [ 0.09, 0.17] | 0.69 |
| Chan et al. (2021) | 0.30 [ 0.19, 0.41] | 0.64 |
| Cook et al. (2016) | 0.57 [ 0.46, 0.68] | 0.64 |
| Dwyer et al. (2014) | 0.69 [ 0.56, 0.82] | 0.62 |
| Erlandson et al. (2019) | 0.17 [ 0.15, 0.19] | 0.70 |
| Estiasari et al. (2015) | 0.51 [ 0.40, 0.62] | 0.64 |
| Fabbiani et al. (2017) | 0.13 [ 0.04, 0.22] | 0.66 |
| Ferrando et al. (2003) | 0.62 [ 0.54, 0.70] | 0.66 |
| Garvey, Surendrakumar & Winston (2011) | 0.19 [ 0.11, 0.27] | 0.67 |
| Goodkin et al. (2014) | 0.43 [ 0.31, 0.55] | 0.63 |



| | | |
|---|---|---|
| Gupta & Venugopal (2020) | 0.48 [ 0.43, 0.53] | 0.68 |
| Halman et al. (2014) | 0.48 [ 0.37, 0.59] | 0.64 |
| Lawler et al. (2011) | 0.37 [ 0.25, 0.49] | 0.62 |
| Mayeux et al. (1993) | 0.44 [ 0.35, 0.53] | 0.65 |
| McCutchan et al. (2007) | 0.27 [ 0.22, 0.32] | 0.68 |
| Milanini et al. (2017) | 0.38 [ 0.36, 0.40] | 0.70 |
| Munoz-Moreno et al. (2013) | 0.61 [ 0.49, 0.73] | 0.62 |
| Robertson et al. (2014) | 0.45 [ 0.42, 0.48] | 0.69 |
| Rodrigues et al. (2013) | 0.52 [ 0.45, 0.60] | 0.67 |
| Salawu et al. (2008) | 0.57 [ 0.44, 0.69] | 0.62 |
| Sanmarti et al. (2020) | 0.19 [ 0.14, 0.24] | 0.68 |
| Sevigny et al. (2007) | 0.69 [ 0.63, 0.74] | 0.68 |
| Sheppard et al. (2015) | 0.16 [ 0.08, 0.24] | 0.66 |
| Stern et al. (1991) | 0.58 [ 0.49, 0.67] | 0.66 |
| Thiyagarajan et al. (2010) | 0.18 [ 0.09, 0.27] | 0.66 |
| Tozzi et al. (2005) | 0.54 [ 0.50, 0.59] | 0.69 |
| Winston et al. (2013) | 0.51 [ 0.47, 0.55] | 0.69 |
| Wright et al. (2015) | 0.20 [ 0.17, 0.23] | 0.69 |
| Heterogeneity: $\tau^2 = 0.03$, $I^2 = 97.55\%$, $H^2 = 40.90$ | 0.41 [ 0.35, 0.47] | |
| Test of $\theta_i = \theta_j$: Q(31) = 1170.36, p = 0.00 | | |
| **GDS** | | |
| Akolo et al. (2014) | 0.31 [ 0.23, 0.39] | 0.66 |
| Aung et al. (2021) | 0.42 [ 0.36, 0.48] | 0.68 |
| Bharti et al. (2021) | 0.28 [ 0.21, 0.34] | 0.67 |
| Braganca & Palha (2011) | 0.51 [ 0.42, 0.60] | 0.66 |
| Brouillette et al. (2021) | 0.52 [ 0.46, 0.59] | 0.68 |
| Carvalhal et al. (2016) | 0.60 [ 0.55, 0.65] | 0.69 |
| Crum-Cianflone et al. (2013) | 0.19 [ 0.14, 0.24] | 0.68 |
| Cysique et al. (2010) | 0.43 [ 0.36, 0.50] | 0.67 |
| Dampier et al. (2017) | 0.59 [ 0.50, 0.68] | 0.65 |
| Day et al. (2016) | 0.27 [ 0.22, 0.32] | 0.69 |
| Deiss et al. (2019) | 0.19 [ 0.13, 0.24] | 0.68 |
| Dufour et al. (2013) | 0.22 [ 0.18, 0.27] | 0.69 |
| Ene et al. (2016) | 0.37 [ 0.30, 0.43] | 0.67 |
| Foley et al. (2013) | 0.22 [ 0.12, 0.31] | 0.65 |
| Gott et al. (2017) | 0.55 [ 0.45, 0.65] | 0.65 |
| Heaton et al. (2008) | 0.35 [ 0.29, 0.42] | 0.67 |
| Hestad et al. (2019) | 0.37 [ 0.31, 0.42] | 0.68 |
| Jumare et al. (2020) | 0.28 [ 0.25, 0.31] | 0.69 |
| Kabuba et al. (2017) | 0.35 [ 0.29, 0.40] | 0.68 |
| Kalayjian et al. (2014) | 0.23 [ 0.17, 0.28] | 0.68 |
| Kallianpur et al. (2016) | 0.36 [ 0.34, 0.39] | 0.69 |
| Kamat et al. (2017) | 0.33 [ 0.22, 0.44] | 0.63 |
| Kamminga et al. (2017) | 0.47 [ 0.34, 0.60] | 0.61 |
| Matchanova et al. (2020) | 0.60 [ 0.52, 0.68] | 0.66 |
| Moore et al. (2012) | 0.19 [ 0.14, 0.24] | 0.68 |



| | | |
|---|---|---|
| Nichols et al. (2013) | 0.65 [ 0.58, 0.71] | 0.68 |
| Nyamayaro et al. (2020) | 0.50 [ 0.42, 0.58] | 0.66 |
| Ruhanya et al. (2020) | 0.37 [ 0.29, 0.44] | 0.67 |
| Spector et al. (2010) | 0.37 [ 0.30, 0.43] | 0.67 |
| Sundermann et al. (2018) | 0.43 [ 0.40, 0.45] | 0.69 |
| Temereanca et al. (2020) | 0.35 [ 0.29, 0.41] | 0.68 |
| Tilghman et al. (2014) | 0.36 [ 0.29, 0.44] | 0.67 |
| van den Dries et al. (2017) | 0.41 [ 0.29, 0.52] | 0.63 |
| Vitiello et al. (2007) | 0.19 [ 0.13, 0.25] | 0.68 |
| Yechoor et al. (2016) | 0.38 [ 0.31, 0.45] | 0.67 |
| Heterogeneity: $\tau^2$ = 0.02, $I^2$ = 95.01%, $H^2$ = 20.06 | 0.37 [ 0.33, 0.42] | |
| Test of $\theta_i = \theta_j$: Q(34) = 603.77, p = 0.00 | | |
| **Gisslen** | | |
| Boccellari et al. (1993) | 0.22 [ 0.11, 0.33] | 0.64 |
| Ciccarelli et al. (2011) | 0.12 [ 0.09, 0.15] | 0.69 |
| Starace et al. (2002) | 0.18 [ 0.14, 0.22] | 0.69 |
| Heterogeneity: $\tau^2$ = 0.00, $I^2$ = 71.57%, $H^2$ = 3.52 | 0.16 [ 0.11, 0.21] | |
| Test of $\theta_i = \theta_j$: Q(2) = 7.13, p = 0.03 | | |
| **MNC** | | |
| Davies et al. (2019) | 0.28 [ 0.18, 0.38] | 0.65 |
| Su et al. (2016) | 0.17 [ 0.10, 0.24] | 0.67 |
| Wang et al. (2019) | 0.08 [ 0.06, 0.09] | 0.70 |
| Heterogeneity: $\tau^2$ = 0.01, $I^2$ = 90.70%, $H^2$ = 10.76 | 0.17 [ 0.05, 0.28] | |
| Test of $\theta_i = \theta_j$: Q(2) = 21.71, p = 0.00 | | |
| **NMM** | | |
| Kemp et al. (2021) | 0.41 [ 0.33, 0.49] | 0.66 |
| Underwood et al. (2019) | 0.21 [ 0.18, 0.25] | 0.69 |
| Heterogeneity: $\tau^2$ = 0.02, $I^2$ = 94.66%, $H^2$ = 18.74 | 0.31 [ 0.12, 0.50] | |
| Test of $\theta_i = \theta_j$: Q(1) = 18.74, p = 0.00 | | |
| **T-Score** | | |
| Fabbiani et al. (2018) | 0.24 [ 0.17, 0.31] | 0.67 |
| Karlsen, Froland & Reinvang (1994) | 0.19 [ 0.08, 0.30] | 0.64 |
| Naveed et al. (2021) | 0.39 [ 0.36, 0.42] | 0.69 |
| Heterogeneity: $\tau^2$ = 0.01, $I^2$ = 90.23%, $H^2$ = 10.23 | 0.28 [ 0.16, 0.40] | |
| Test of $\theta_i = \theta_j$: Q(2) = 24.22, p = 0.00 | | |
| **clinical NP ratings** | | |
| Atkins et al. (2010) | 0.49 [ 0.43, 0.54] | 0.68 |
| Becker et al. (2004) | 0.20 [ 0.16, 0.25] | 0.69 |
| Chalermchai et al. (2013) | 0.51 [ 0.40, 0.62] | 0.63 |
| Fazeli, Woods & Vance (2019) | 0.53 [ 0.46, 0.60] | 0.67 |
| Heterogeneity: $\tau^2$ = 0.02, $I^2$ = 95.68%, $H^2$ = 23.17 | 0.43 [ 0.27, 0.58] | |
| Test of $\theta_i = \theta_j$: Q(3) = 93.10, p = 0.00 | | |

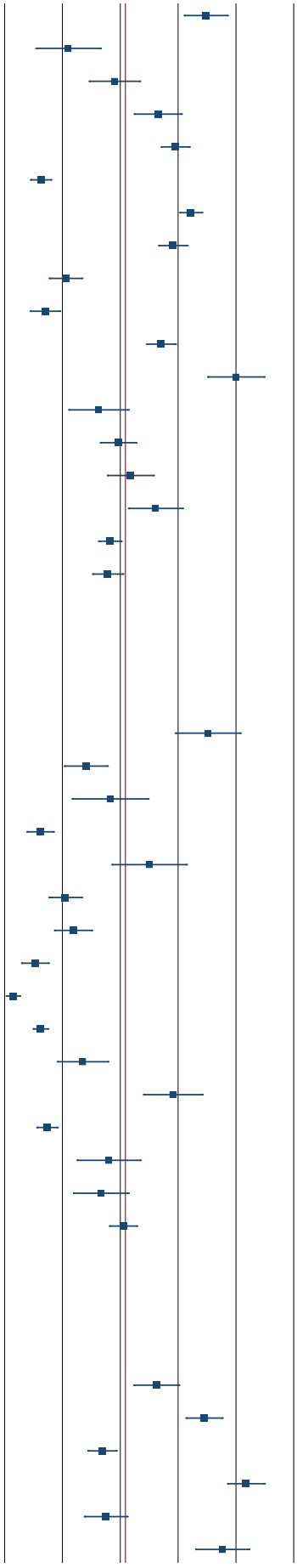



| | |
|---|---|
| **Overall** | 0.39 [ 0.36, 0.42] |
| Heterogeneity: $\tau^2$ = 0.03, $I^2$ = 97.82%, $H^2$ = 45.86 | |
| Test of $\theta_i = \theta_j$: Q(149) = 7311.83, p = 0.00 | |
| Test of group differences: $Q_b(8)$ = 80.91, p = 0.00 | |

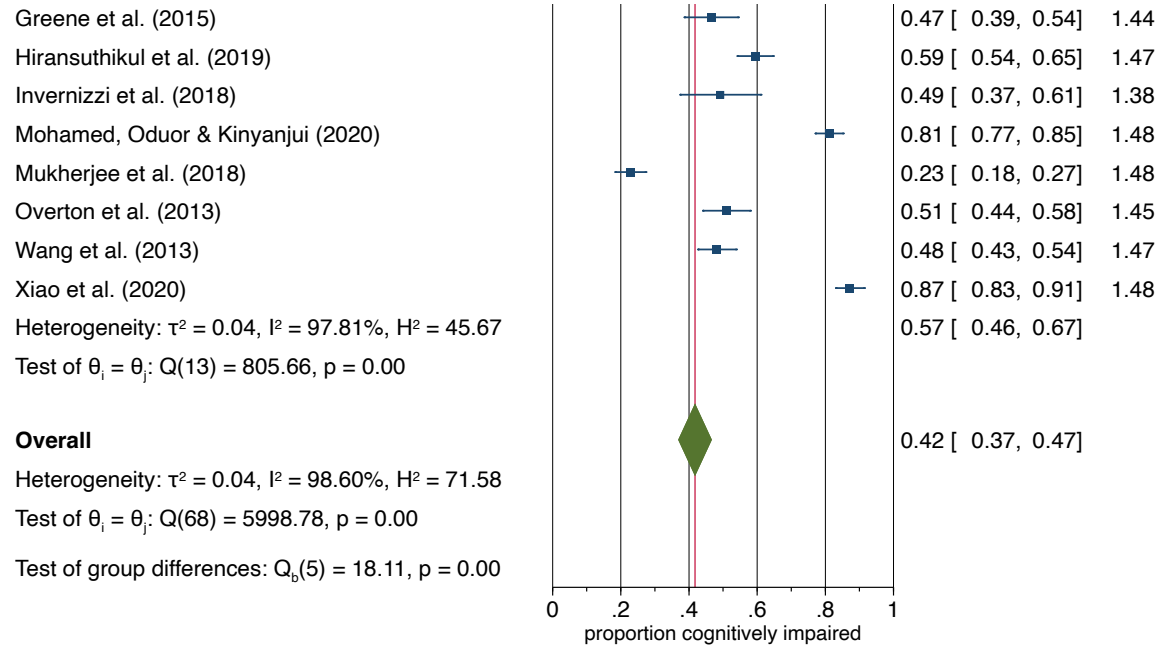
Random-effects REML model

**Supplementary Figure 11: Forest plot including studies categorised as a screening method.**

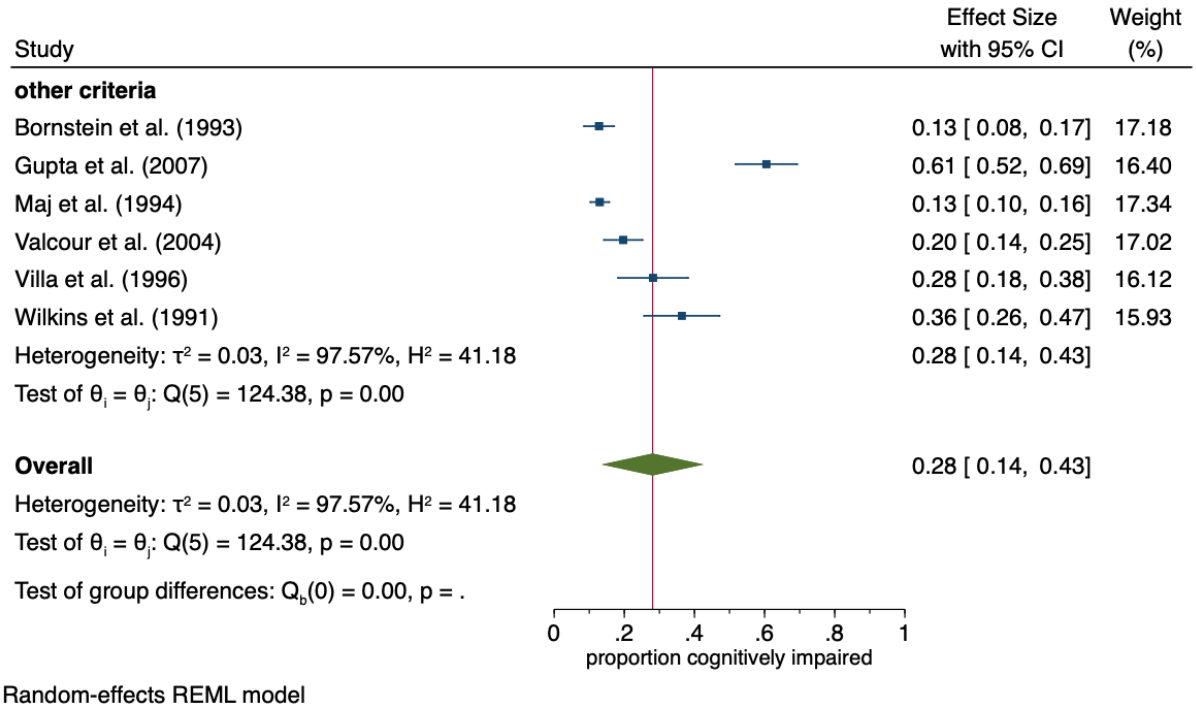
| Study | Effect Size with 95% CI | Weight (%) |
|---|---|---|
| **BNCS** | | |
| Kalayjian et al. (2019) | 0.24 [ 0.22, 0.26] | 1.49 |
| McNamara et al. (2017) | 0.51 [ 0.48, 0.55] | 1.48 |
| Robertson et al. (2019) | 0.41 [ 0.40, 0.43] | 1.49 |
| Heterogeneity: $\tau^2$ = 0.02, $I^2$ = 99.29%, $H^2$ = 140.28 | 0.39 [ 0.23, 0.55] | |
| Test of $\theta_i = \theta_j$: Q(2) = 246.50, p = 0.00 | | |
| **CSID** | | |
| Joska et al. (2016) | 0.18 [ 0.08, 0.28] | 1.40 |
| Odiase, Ogunrin & Ogunniyi (2006) | 0.66 [ 0.59, 0.72] | 1.45 |
| Heterogeneity: $\tau^2$ = 0.11, $I^2$ = 98.27%, $H^2$ = 57.91 | 0.42 [ -0.04, 0.89] | |
| Test of $\theta_i = \theta_j$: Q(1) = 57.91, p = 0.00 | | |
| **HDS** | | |
| Banerjee, McIntosh & Ironson (2019) | 0.15 [ 0.10, 0.20] | 1.47 |
| Fialho et al. (2013) | 0.57 [ 0.48, 0.67] | 1.42 |
| Ganasen et al. (2008) | 0.17 [ 0.14, 0.20] | 1.48 |
| Gibbie et al. (2006) | 0.07 [ 0.03, 0.11] | 1.48 |
| Jevtovic et al. (2009) | 0.42 [ 0.32, 0.52] | 1.41 |
| Heterogeneity: $\tau^2$ = 0.04, $I^2$ = 98.31%, $H^2$ = 59.00 | 0.27 [ 0.09, 0.46] | |
| Test of $\theta_i = \theta_j$: Q(4) = 112.98, p = 0.00 | | |
| **IHDS** | | |
| Animut et al. (2019) | 0.67 [ 0.64, 0.71] | 1.48 |
| Araya et al. (2020) | 0.36 [ 0.32, 0.39] | 1.48 |
| Asiedu, Kretchy & Asampong (2020) | 0.48 [ 0.38, 0.58] | 1.41 |
| Atashili et al. (2013) | 0.85 [ 0.82, 0.88] | 1.48 |
| Barber et al. (2017) | 0.22 [ 0.15, 0.28] | 1.45 |
| Belete, Medfu & Yemiyamrew (2017) | 0.33 [ 0.27, 0.39] | 1.46 |
| Chan et al. (2012) | 0.39 [ 0.29, 0.49] | 1.41 |
| Cook et al. (2014) | 0.36 [ 0.25, 0.47] | 1.39 |
| Cross et al. (2013) | 0.41 [ 0.37, 0.45] | 1.48 |
| Dang et al. (2015) | 0.38 [ 0.31, 0.44] | 1.46 |
| Ding et al. (2017) | 0.47 [ 0.41, 0.52] | 1.47 |



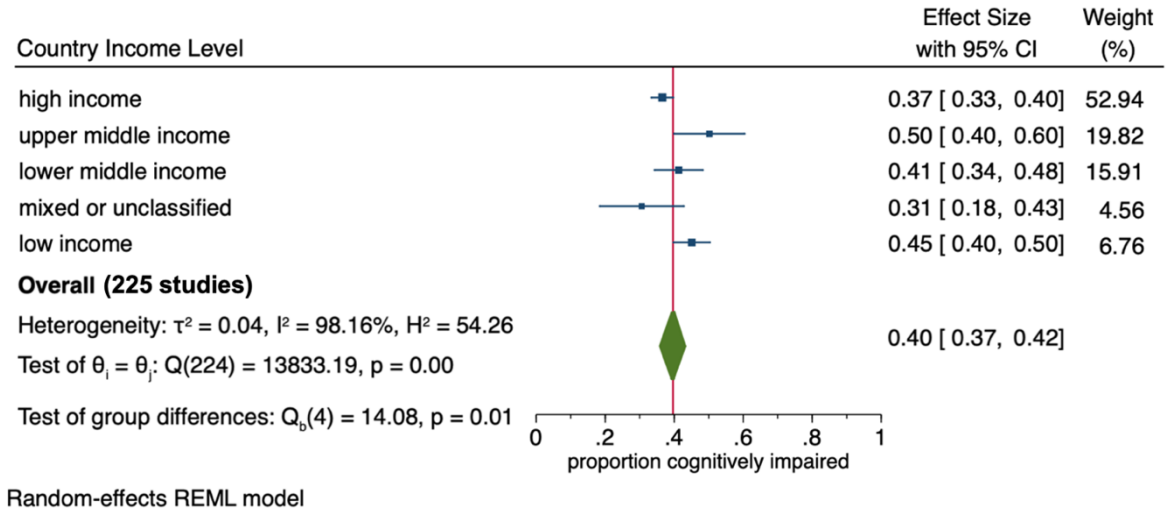
| | | | |
|---|---|---|---|
| Duarte et al. (2020) | 0.70 | [ 0.62, 0.77] | 1.45 |
| Holguin et al. (2011) | 0.22 | [ 0.11, 0.33] | 1.39 |
| Lawler et al. (2010) | 0.38 | [ 0.29, 0.47] | 1.43 |
| Mogambery et al. (2017) | 0.53 | [ 0.45, 0.61] | 1.44 |
| Molinaro et al. (2020) | 0.59 | [ 0.54, 0.64] | 1.47 |
| Mugendi et al. (2019) | 0.12 | [ 0.09, 0.16] | 1.48 |
| Nakku, Kinyada & Hoskins (2013) | 0.64 | [ 0.61, 0.68] | 1.48 |
| Namagga et al. (2019) | 0.58 | [ 0.53, 0.63] | 1.47 |
| Njamnshi et al. (2008) | 0.21 | [ 0.16, 0.27] | 1.47 |
| Patel et al. (2010) | 0.14 | [ 0.09, 0.19] | 1.47 |
| Pinheiro et al. (2016) | 0.54 | [ 0.49, 0.59] | 1.47 |
| Robbins et al. (2011) | 0.80 | [ 0.70, 0.90] | 1.41 |
| Saini & Barar (2016) | 0.32 | [ 0.22, 0.43] | 1.40 |
| Salahuddin et al. (2020) | 0.39 | [ 0.33, 0.45] | 1.46 |
| Tomita et al. (2019) | 0.44 | [ 0.36, 0.51] | 1.44 |
| Troncoso & de Oliveira Contero (2015) | 0.52 | [ 0.43, 0.61] | 1.42 |
| Tsegaw et al. (2017) | 0.36 | [ 0.33, 0.40] | 1.48 |
| Yideg et al. (2019) | 0.36 | [ 0.31, 0.41] | 1.47 |
| Heterogeneity: $\tau^2 = 0.03$, $I^2 = 97.70\%$, $H^2 = 43.56$ | 0.44 | [ 0.37, 0.51] | |
| Test of $\theta_i = \theta_j$: Q(28) = 1627.59, p = 0.00 | | | |
| **MMSE** | | | |
| Akena et al. (2010) | 0.70 | [ 0.59, 0.81] | 1.39 |
| Cruz & Ramos (2015) | 0.28 | [ 0.21, 0.35] | 1.45 |
| Filho & de Melo (2012) | 0.37 | [ 0.23, 0.50] | 1.35 |
| Imam (2007) | 0.12 | [ 0.08, 0.17] | 1.48 |
| Kalungwana et al. (2014) | 0.50 | [ 0.37, 0.63] | 1.36 |
| Kumar et al. (2019) | 0.21 | [ 0.15, 0.27] | 1.47 |
| Kupprat et al. (2017) | 0.24 | [ 0.17, 0.30] | 1.46 |
| Madan, Singh & Golechha (1997) | 0.10 | [ 0.06, 0.15] | 1.47 |
| Oshinaike et al. (2012) | 0.03 | [ 0.01, 0.05] | 1.49 |
| Qiao et al. (2019) | 0.12 | [ 0.10, 0.15] | 1.49 |
| Sereia et al. (2012) | 0.27 | [ 0.18, 0.36] | 1.43 |
| Suarez et al. (2001) | 0.58 | [ 0.48, 0.68] | 1.41 |
| Tamargo et al. (2021) | 0.15 | [ 0.11, 0.18] | 1.48 |
| Tremont-Lukats, Teixeira & Hernandez (1999) | 0.36 | [ 0.25, 0.47] | 1.39 |
| Widyadharma et al. (2017) | 0.33 | [ 0.24, 0.43] | 1.42 |
| Wubetu, Asefa & Gebregiorgis (2021) | 0.41 | [ 0.36, 0.46] | 1.47 |
| Heterogeneity: $\tau^2 = 0.03$, $I^2 = 98.01\%$, $H^2 = 50.35$ | 0.29 | [ 0.20, 0.38] | |
| Test of $\theta_i = \theta_j$: Q(15) = 496.86, p = 0.00 | | | |
| **MoCA** | | | |
| Agarwal et al. (2020) | 0.52 | [ 0.45, 0.60] | 1.44 |
| Awori et al. (2018) | 0.69 | [ 0.63, 0.75] | 1.46 |
| Bourgeois et al. (2020) | 0.34 | [ 0.29, 0.39] | 1.47 |
| Brito-Marques et al. (2020) | 0.83 | [ 0.77, 0.90] | 1.46 |
| Derry et al. (2020) | 0.35 | [ 0.28, 0.42] | 1.45 |
| Fitri, Rambe & Fitri (2018) | 0.75 | [ 0.66, 0.84] | 1.42 |



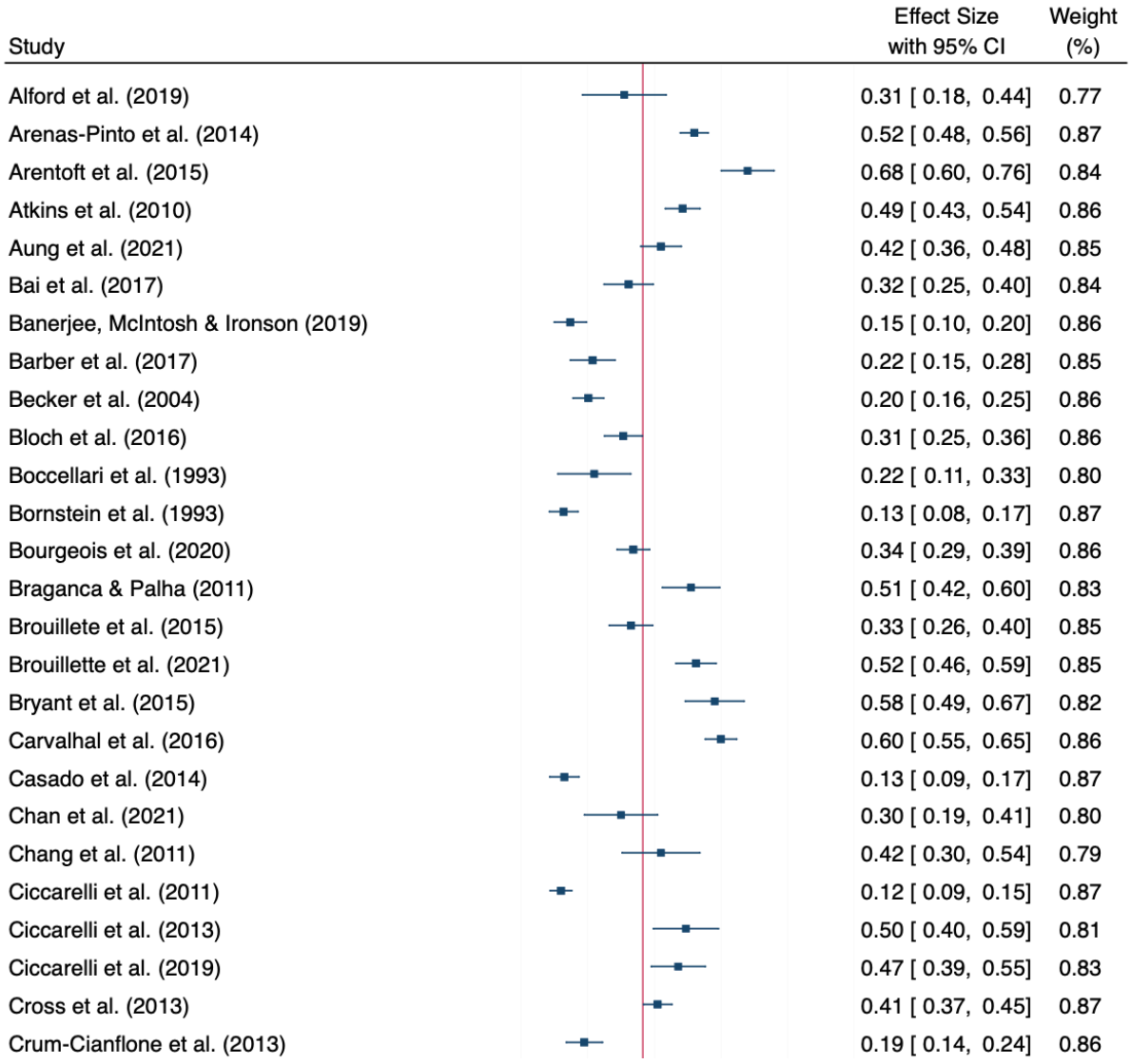

**Supplementary Figure 12: Forest plot including studies categorised as other criteria.**

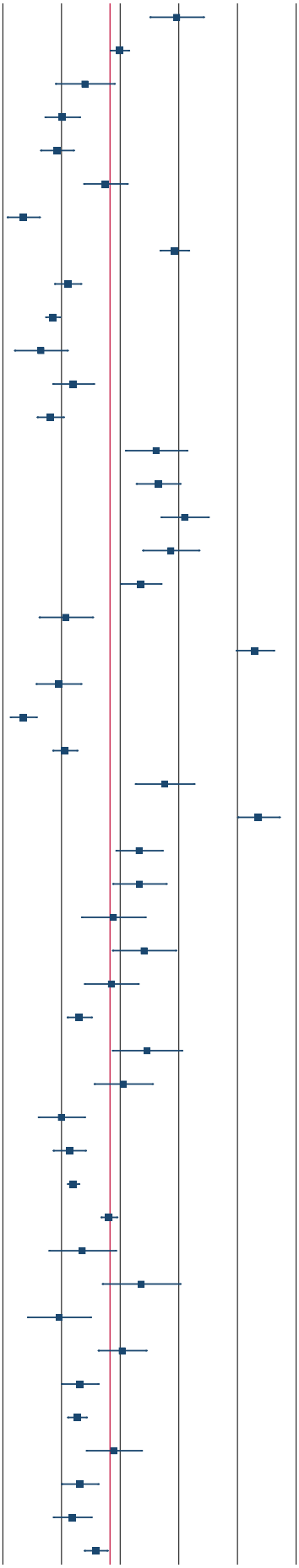


**Supplementary Figure 13: Forest plot of study subgroups by income level (country).** The subgroup "mixed or unclassified" refers to multi-site studies and studies from Venezuela, which is not classified by The World Bank. Figure made using STATA.

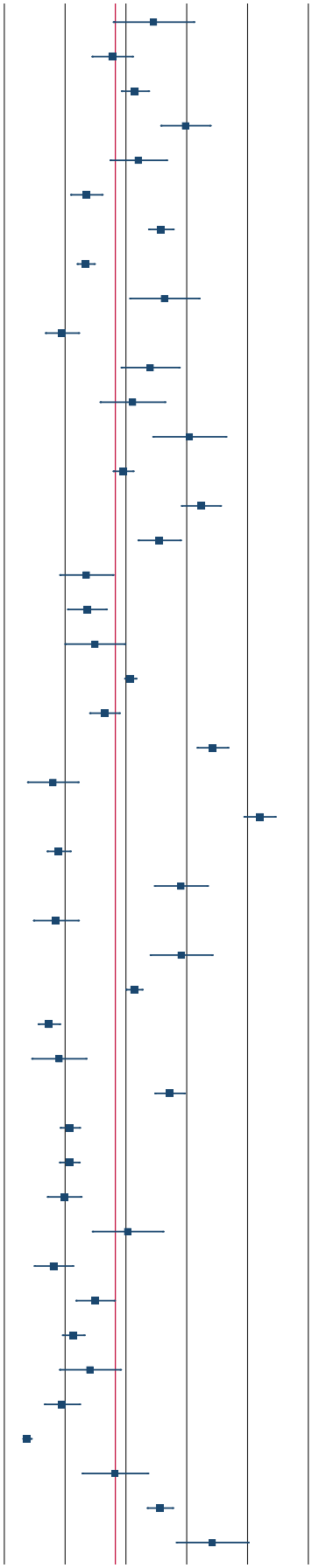



**Supplementary Figure 14: Forest plot including studies from high-income countries.**

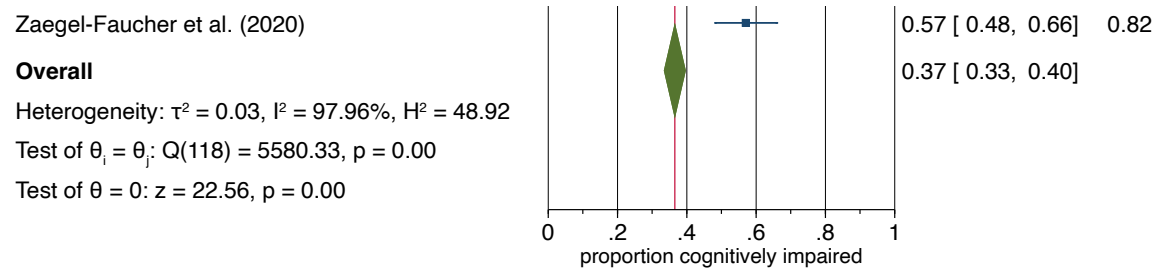




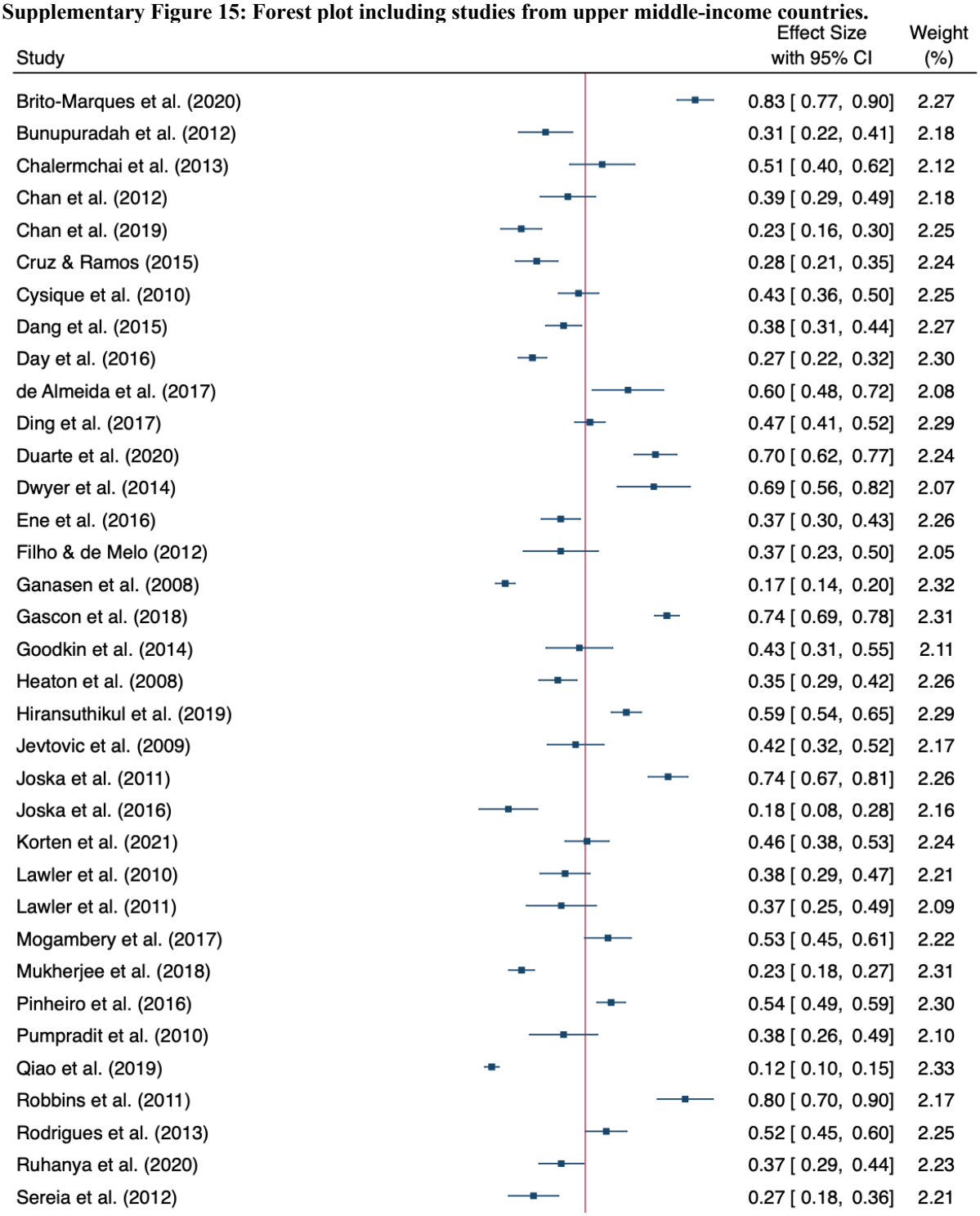
| | | |
|---|---|---|
| Dampier et al. (2017) | 0.59 [ 0.50, 0.68] | 0.82 |
| Darling et al. (2021) | 0.40 [ 0.37, 0.43] | 0.87 |
| Davies et al. (2019) | 0.28 [ 0.18, 0.38] | 0.81 |
| de Ronchi, Faranca & Berardi (2002) | 0.20 [ 0.14, 0.26] | 0.86 |
| Deiss et al. (2019) | 0.19 [ 0.13, 0.24] | 0.86 |
| Derry et al. (2020) | 0.35 [ 0.28, 0.42] | 0.84 |
| Donne et al. (2020) | 0.07 [ 0.02, 0.12] | 0.86 |
| Dufouil et al. (2015) | 0.58 [ 0.54, 0.63] | 0.86 |
| Dufour et al. (2013) | 0.22 [ 0.18, 0.27] | 0.87 |
| Erlandson et al. (2019) | 0.17 [ 0.15, 0.19] | 0.88 |
| Fabbiani et al. (2017) | 0.13 [ 0.04, 0.22] | 0.82 |
| Fabbiani et al. (2018) | 0.24 [ 0.17, 0.31] | 0.85 |
| Fabbiani et al. (2019) | 0.16 [ 0.12, 0.21] | 0.87 |
| Failde-Garrido et al. (2008) | 0.52 [ 0.42, 0.63] | 0.80 |
| Fazeli, Woods & Vance (2019) | 0.53 [ 0.46, 0.60] | 0.84 |
| Ferrando et al. (2003) | 0.62 [ 0.54, 0.70] | 0.83 |
| Fialho et al. (2013) | 0.57 [ 0.48, 0.67] | 0.82 |
| Foca et al. (2016) | 0.47 [ 0.40, 0.54] | 0.85 |
| Foley et al. (2013) | 0.22 [ 0.12, 0.31] | 0.82 |
| Gandhi et al. (2011) | 0.86 [ 0.80, 0.92] | 0.85 |
| Garvey, Surendrakumar & Winston (2011) | 0.19 [ 0.11, 0.27] | 0.84 |
| Gibbie et al. (2006) | 0.07 [ 0.03, 0.11] | 0.87 |
| Gomez et al. (2019) | 0.21 [ 0.17, 0.25] | 0.87 |
| Gott et al. (2017) | 0.55 [ 0.45, 0.65] | 0.81 |
| Grauer et al. (2015) | 0.87 [ 0.80, 0.94] | 0.84 |
| Greene et al. (2015) | 0.47 [ 0.39, 0.54] | 0.84 |
| Grima et al. (2012) | 0.47 [ 0.38, 0.56] | 0.82 |
| Groff et al. (2020) | 0.38 [ 0.27, 0.49] | 0.80 |
| Halman et al. (2014) | 0.48 [ 0.37, 0.59] | 0.80 |
| Hanna et al. (2020) | 0.37 [ 0.28, 0.46] | 0.82 |
| Imai et al. (2020) | 0.26 [ 0.22, 0.30] | 0.87 |
| Invernizzi et al. (2018) | 0.49 [ 0.37, 0.61] | 0.79 |
| Janssen et al. (1989) | 0.41 [ 0.31, 0.51] | 0.81 |
| Janssen et al. (2015) | 0.20 [ 0.12, 0.28] | 0.84 |
| Kalayjian et al. (2014) | 0.23 [ 0.17, 0.28] | 0.86 |
| Kalayjian et al. (2019) | 0.24 [ 0.22, 0.26] | 0.88 |
| Kallianpur et al. (2016) | 0.36 [ 0.34, 0.39] | 0.88 |
| Kamal et al. (2017) | 0.27 [ 0.16, 0.38] | 0.79 |
| Kamminga et al. (2017) | 0.47 [ 0.34, 0.60] | 0.76 |
| Karlsen, Froland & Reinvang (1994) | 0.19 [ 0.08, 0.30] | 0.80 |
| Kemp et al. (2021) | 0.41 [ 0.33, 0.49] | 0.83 |
| Kim et al. (2016) | 0.26 [ 0.20, 0.32] | 0.85 |
| Kinai et al. (2017) | 0.25 [ 0.22, 0.28] | 0.87 |
| Klusman et al. (1991) | 0.38 [ 0.29, 0.47] | 0.82 |
| Ku et al. (2014) | 0.26 [ 0.20, 0.32] | 0.85 |
| Kupprat et al. (2017) | 0.24 [ 0.17, 0.30] | 0.85 |
| Libertone et al. (2014) | 0.32 [ 0.28, 0.36] | 0.87 |

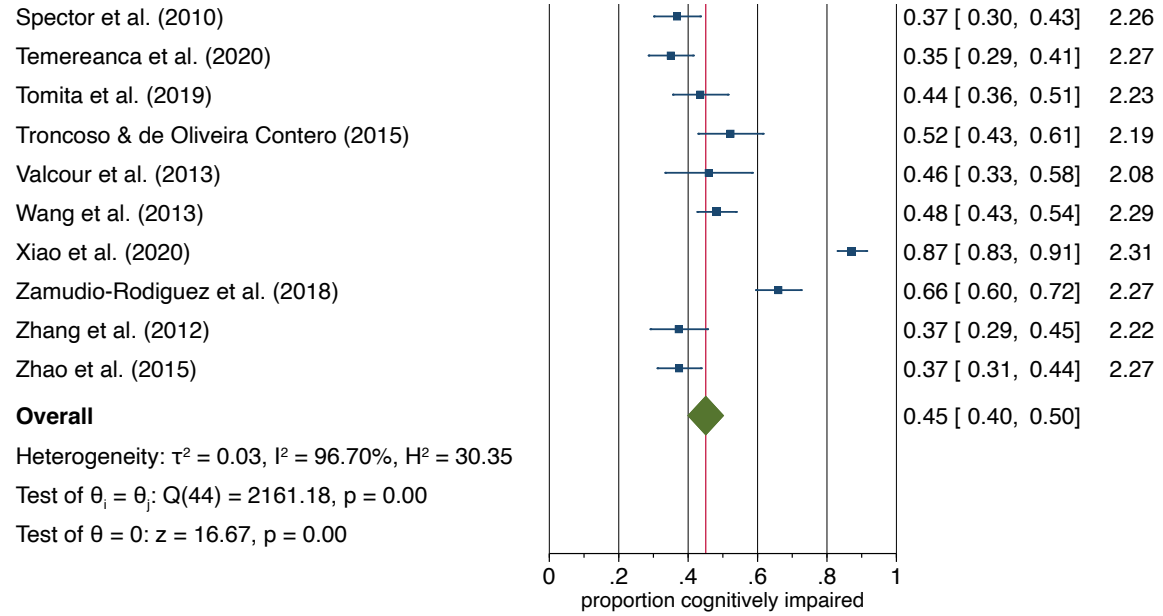


| | | |
|---|---|---|
| Lu et al. (2014) | 0.49 [ 0.36, 0.62] | 0.76 |
| Makinson et al. (2020) | 0.35 [ 0.29, 0.42] | 0.85 |
| Marin-Webb et al. (2016) | 0.43 [ 0.39, 0.47] | 0.87 |
| Matchanova et al. (2020) | 0.60 [ 0.52, 0.68] | 0.83 |
| Mayeux et al. (1993) | 0.44 [ 0.35, 0.53] | 0.82 |
| McCutchan et al. (2007) | 0.27 [ 0.22, 0.32] | 0.86 |
| McNamara et al. (2017) | 0.51 [ 0.48, 0.55] | 0.87 |
| Metral et al. (2020) | 0.27 [ 0.24, 0.30] | 0.87 |
| Milanini et al. (2020) | 0.53 [ 0.41, 0.64] | 0.79 |
| Moore et al. (2012) | 0.19 [ 0.14, 0.24] | 0.86 |
| Munoz-Moreno et al. (2008) | 0.48 [ 0.38, 0.58] | 0.82 |
| Munoz-Moreno et al. (2010) | 0.42 [ 0.32, 0.53] | 0.80 |
| Munoz-Moreno et al. (2013) | 0.61 [ 0.49, 0.73] | 0.78 |
| Naveed et al. (2021) | 0.39 [ 0.36, 0.42] | 0.87 |
| Nichols et al. (2013) | 0.65 [ 0.58, 0.71] | 0.85 |
| Overton et al. (2013) | 0.51 [ 0.44, 0.58] | 0.85 |
| Pereda et al. (2000) | 0.27 [ 0.18, 0.36] | 0.83 |
| Perez-Valero et al. (2013) | 0.27 [ 0.21, 0.34] | 0.85 |
| Portilla et al. (2019) | 0.30 [ 0.20, 0.40] | 0.81 |
| Robertson et al. (2019) | 0.41 [ 0.40, 0.43] | 0.88 |
| Sacktor et al. (2014) | 0.33 [ 0.28, 0.38] | 0.86 |
| Sevigny et al. (2007) | 0.69 [ 0.63, 0.74] | 0.86 |
| Sheppard et al. (2015) | 0.16 [ 0.08, 0.24] | 0.83 |
| Simioni et al. (2010) | 0.84 [ 0.79, 0.89] | 0.86 |
| Starace et al. (2002) | 0.18 [ 0.14, 0.22] | 0.87 |
| Stern et al. (1991) | 0.58 [ 0.49, 0.67] | 0.83 |
| Su et al. (2016) | 0.17 [ 0.10, 0.24] | 0.84 |
| Suarez et al. (2001) | 0.58 [ 0.48, 0.68] | 0.81 |
| Sundermann et al. (2018) | 0.43 [ 0.40, 0.45] | 0.88 |
| Tamargo et al. (2021) | 0.15 [ 0.11, 0.18] | 0.87 |
| Thiyagarajan et al. (2010) | 0.18 [ 0.09, 0.27] | 0.82 |
| Tozzi et al. (2005) | 0.54 [ 0.50, 0.59] | 0.86 |
| Trunfio et al. (2018) | 0.22 [ 0.18, 0.25] | 0.87 |
| Underwood et al. (2019) | 0.21 [ 0.18, 0.25] | 0.87 |
| Valcour et al. (2004) | 0.20 [ 0.14, 0.25] | 0.86 |
| van den Dries et al. (2017) | 0.41 [ 0.29, 0.52] | 0.79 |
| van Gorp et al. (1999) | 0.16 [ 0.10, 0.23] | 0.85 |
| Vassallo et al. (2015) | 0.30 [ 0.24, 0.36] | 0.85 |
| Vergori et al. (2019) | 0.23 [ 0.19, 0.26] | 0.87 |
| Villa et al. (1996) | 0.28 [ 0.18, 0.38] | 0.81 |
| Vitiello et al. (2007) | 0.19 [ 0.13, 0.25] | 0.86 |
| Wang et al. (2019) | 0.08 [ 0.06, 0.09] | 0.88 |
| Wilkins et al. (1991) | 0.36 [ 0.26, 0.47] | 0.80 |
| Winston et al. (2013) | 0.51 [ 0.47, 0.55] | 0.87 |
| Wojna et al. (2007) | 0.68 [ 0.57, 0.80] | 0.79 |

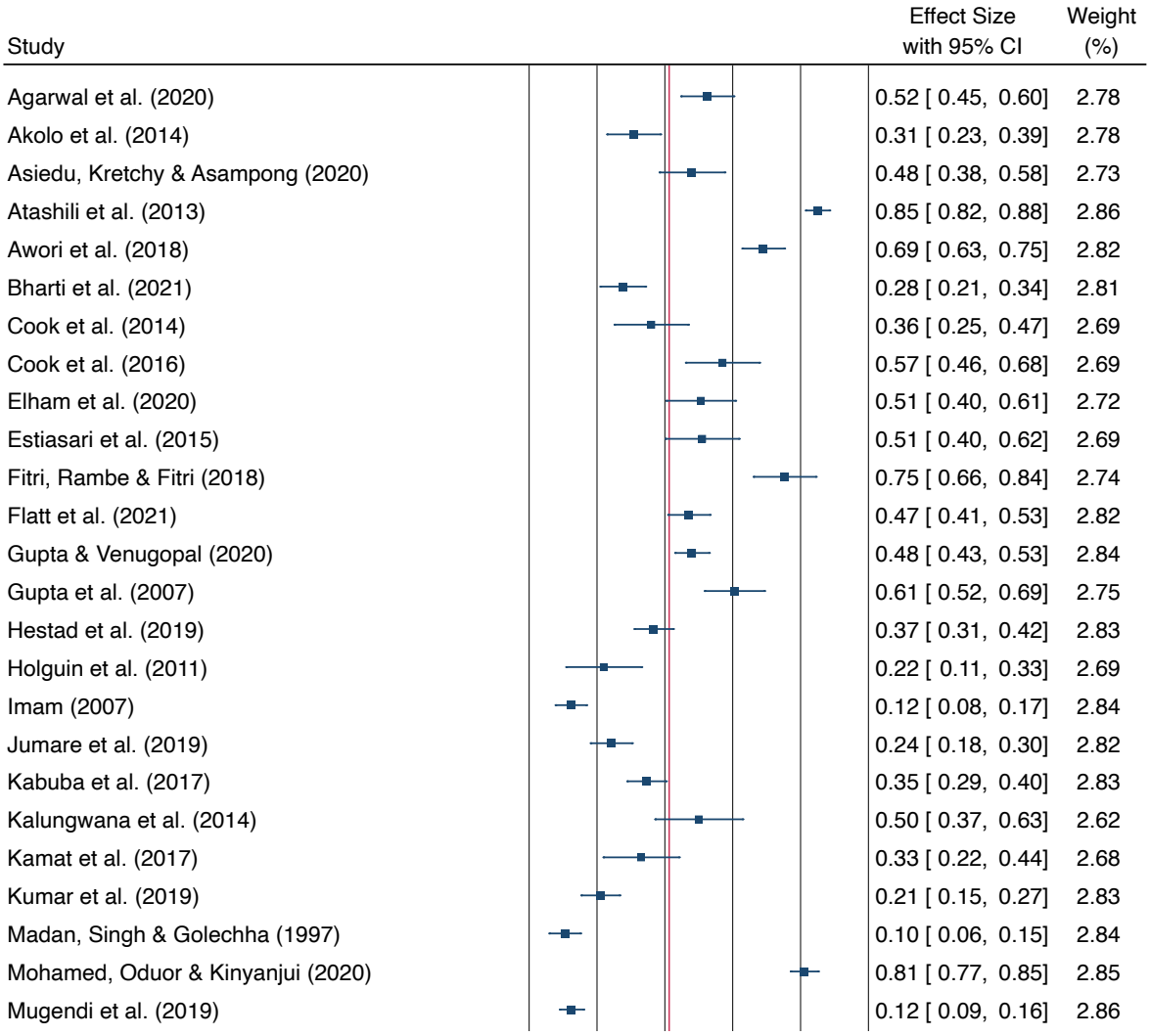


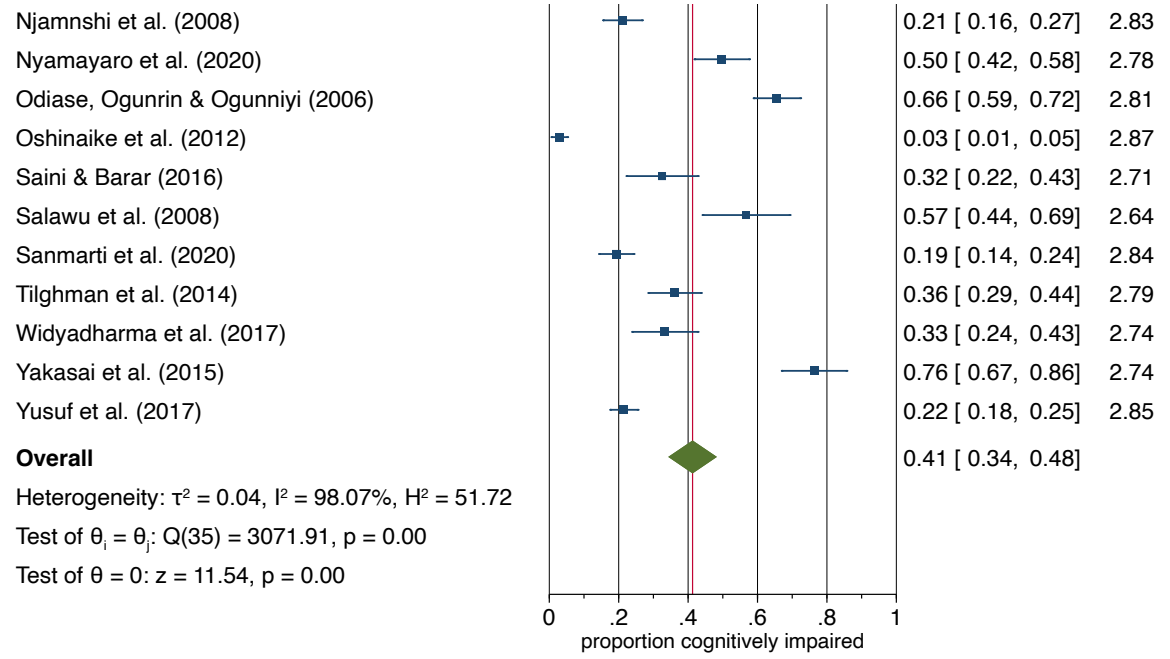

**Supplementary Figure 15: Forest plot including studies from upper middle-income countries.**



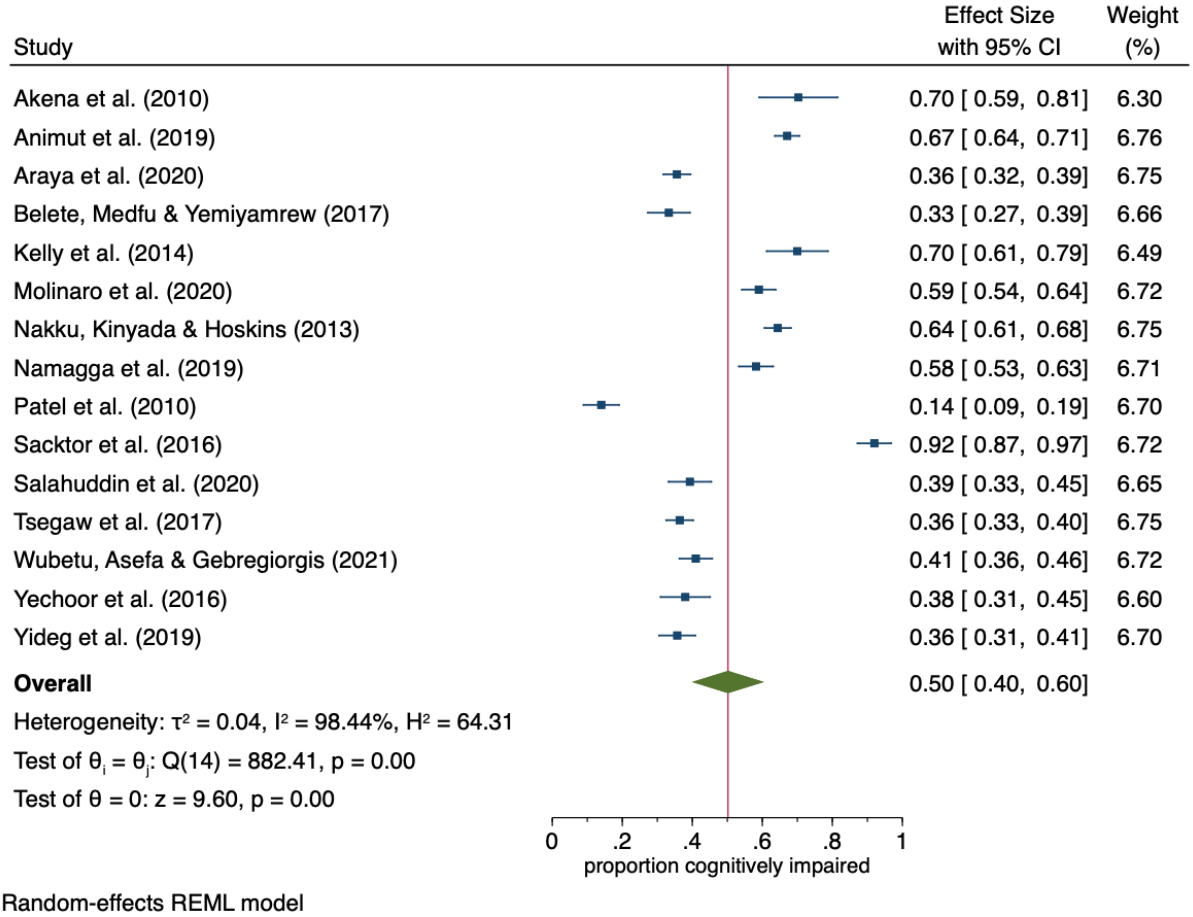



**Supplementary Figure 16: Forest plot including studies from lower middle-income countries.**

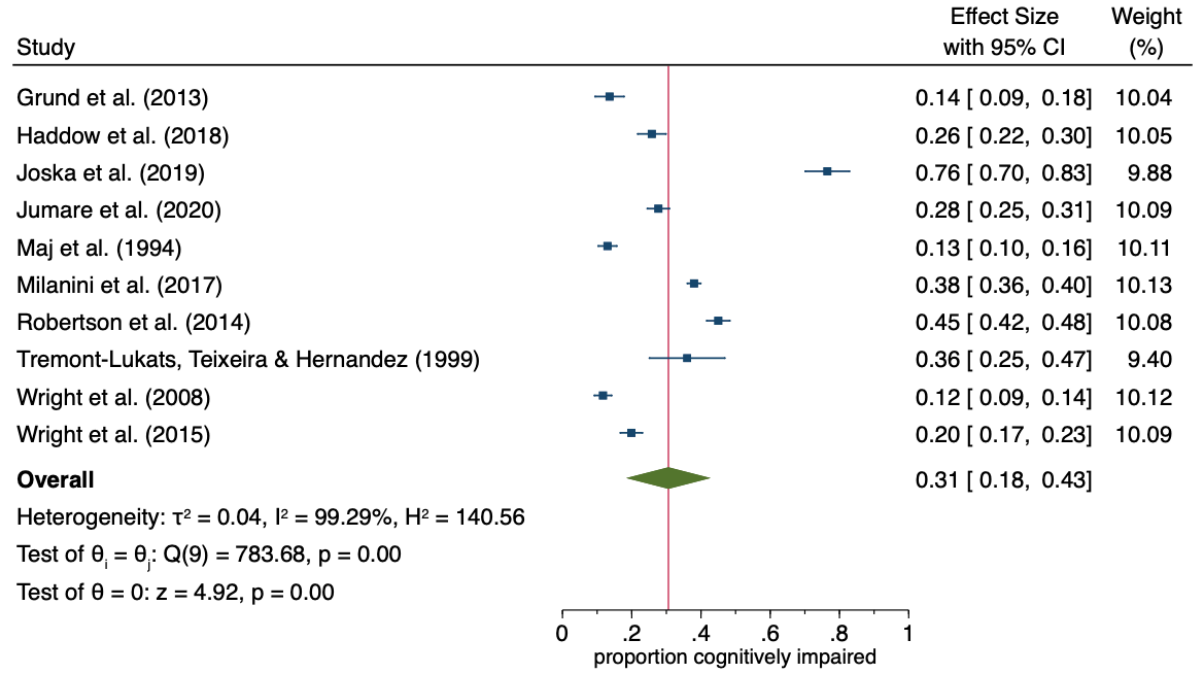




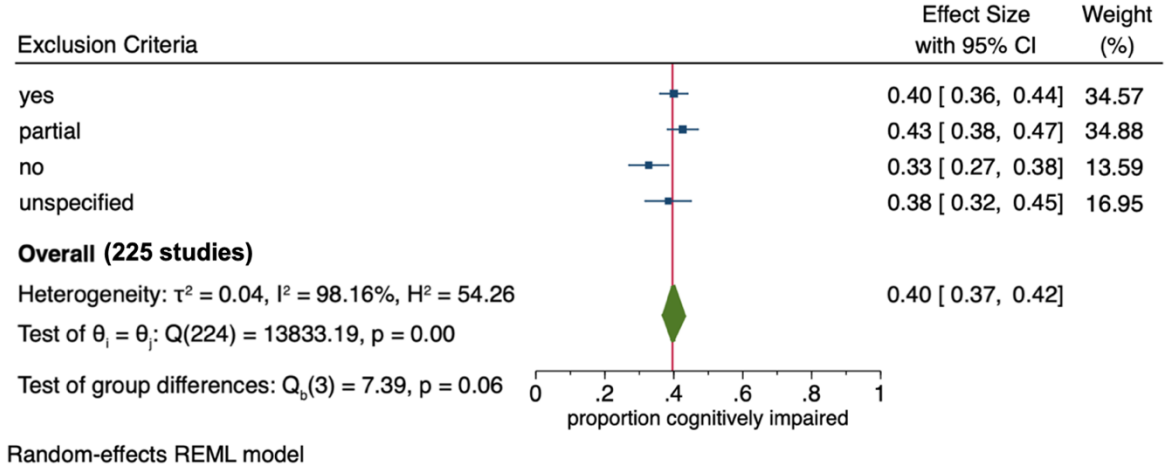

**Supplementary Figure 17: Forest plot including studies from low-income countries.**



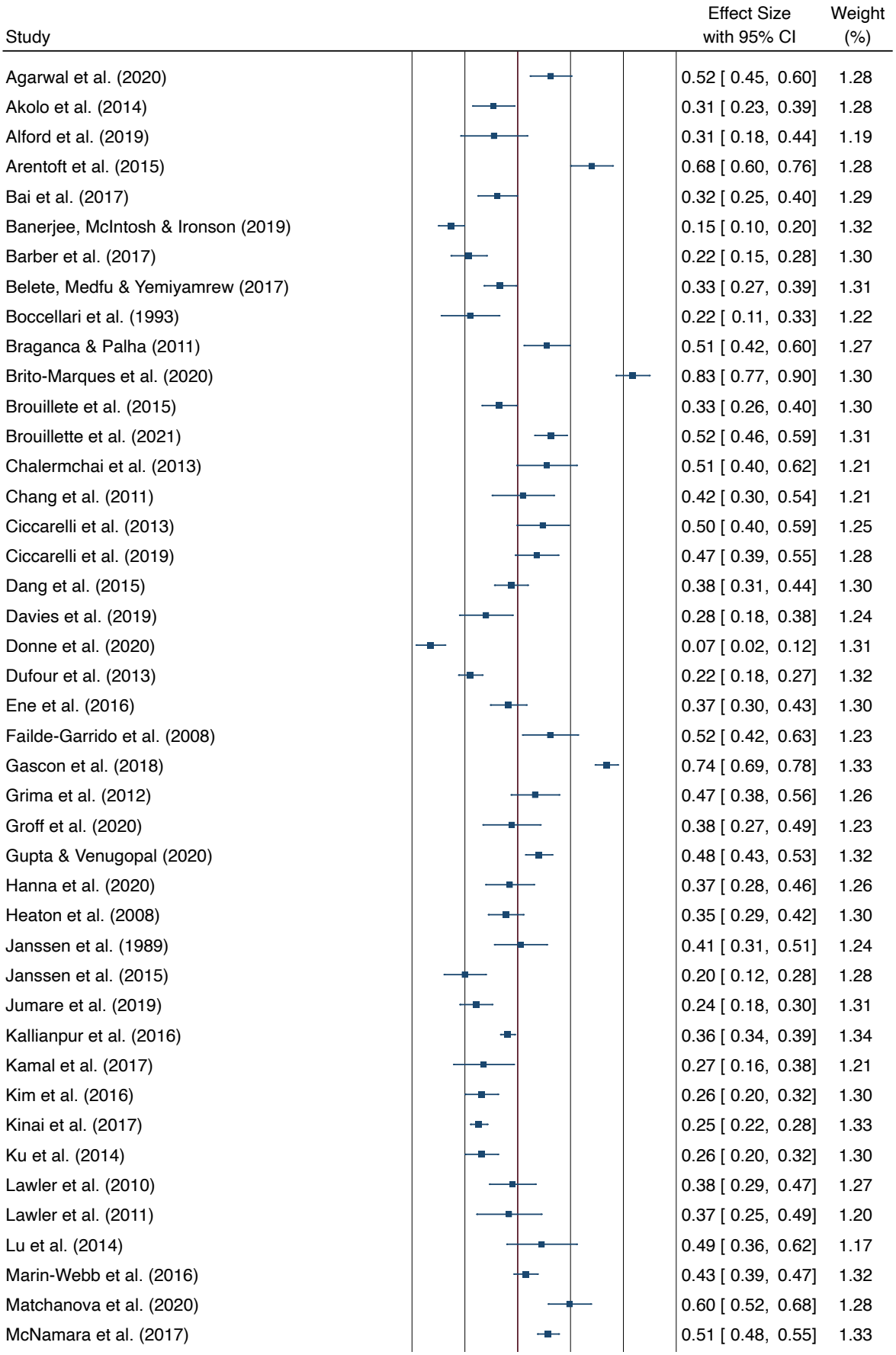
**Supplementary Figure 18: Forest plot including studies from mixed or unclassified countries.**

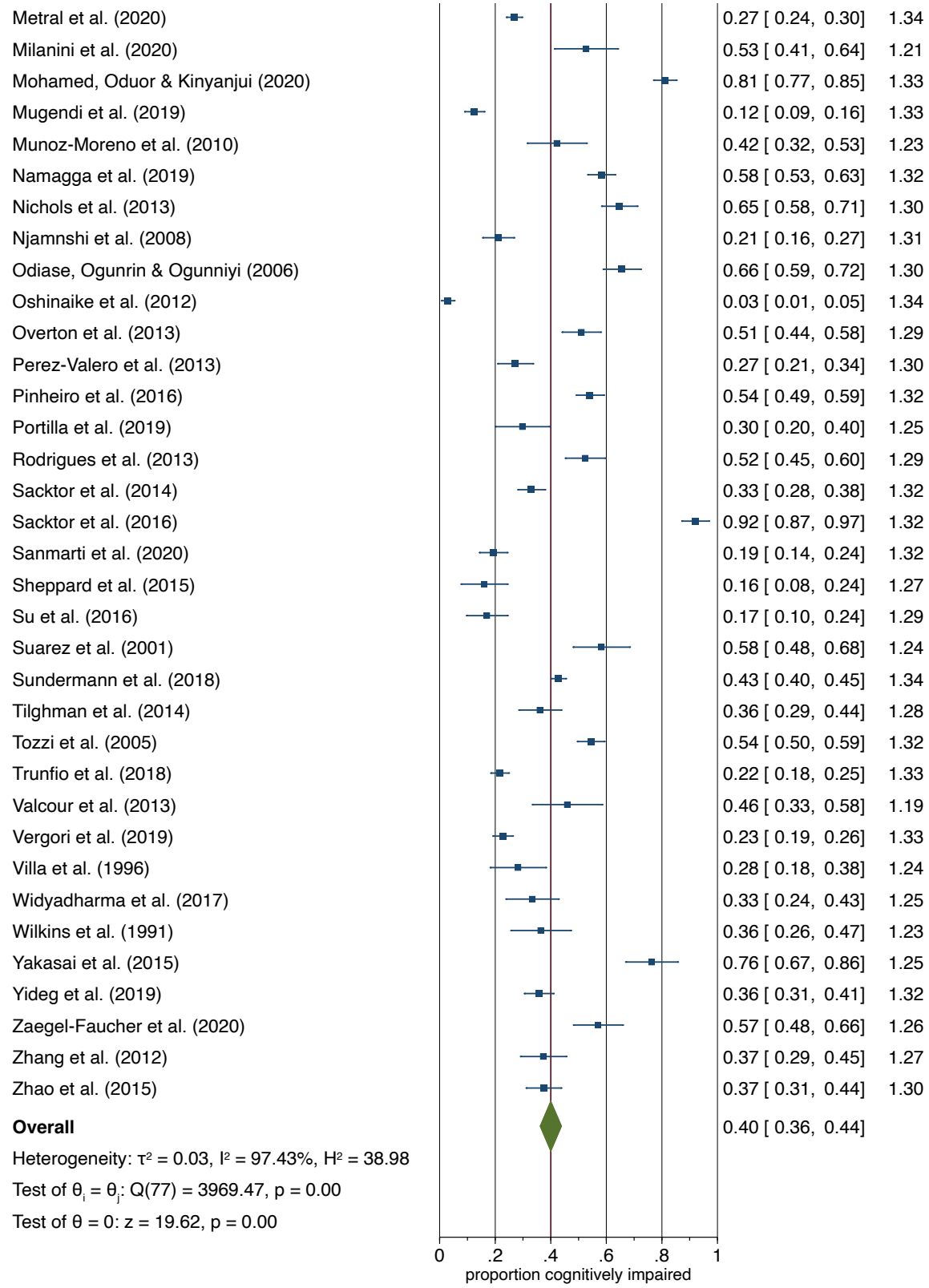



**Supplementary Figure 19: Forest plot of study subgroups by study exclusion criteria.** Figure made using STATA.



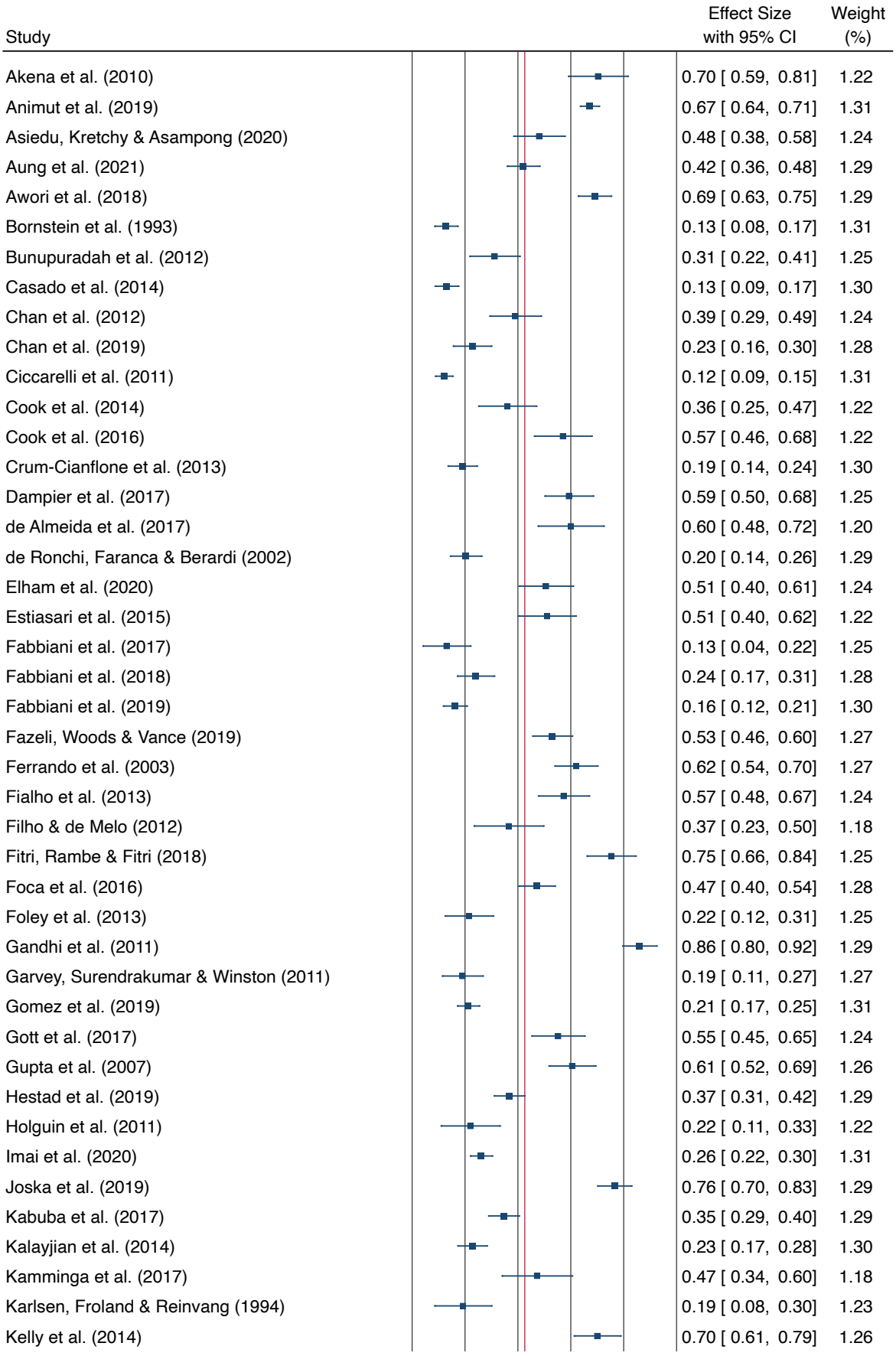
**Supplementary Figure 20: Forest plot including studies with exclusion criteria.**

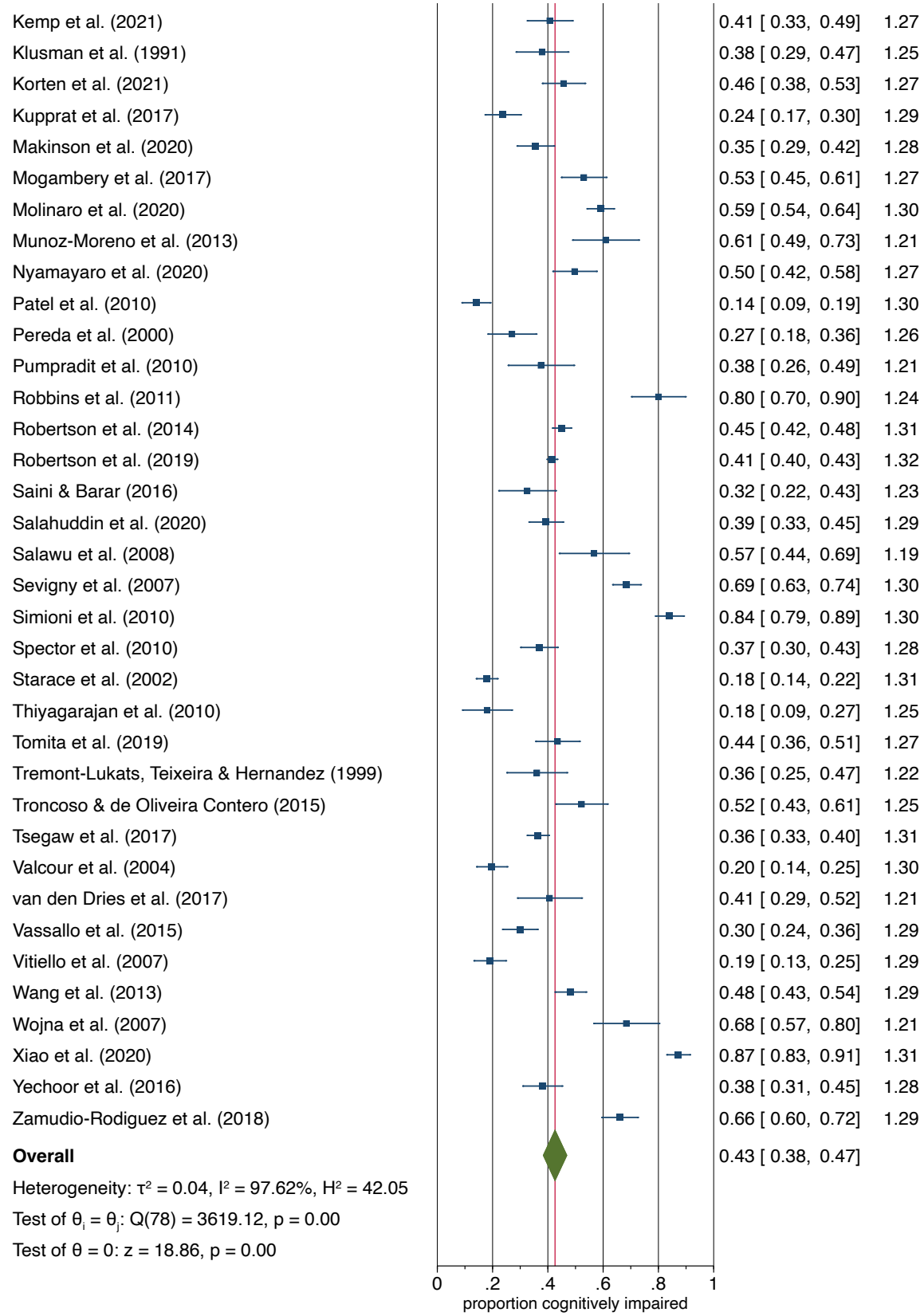





Random-effects REML model

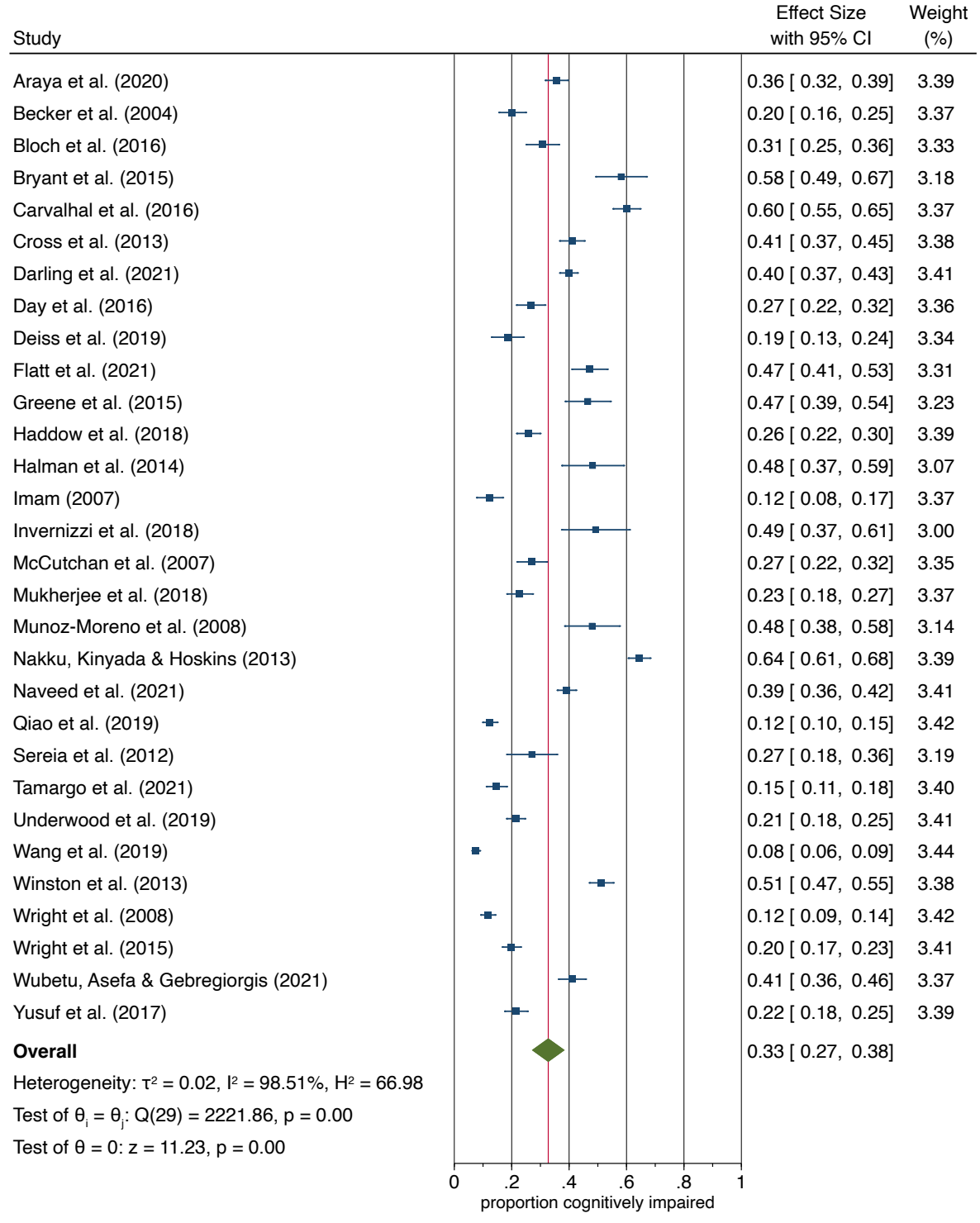
**Supplementary Figure 21: Forest plot including studies with partial criteria.**



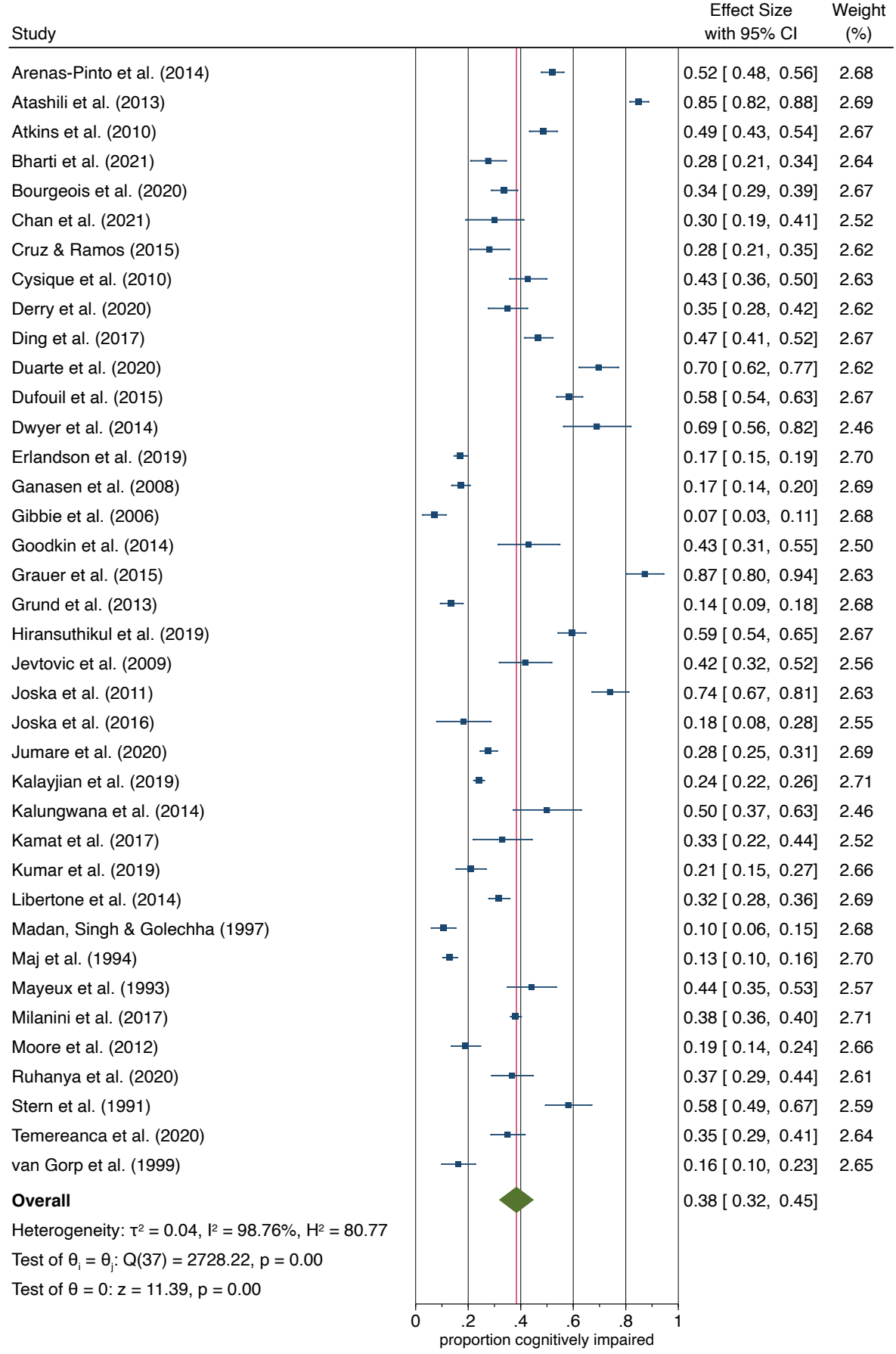



Random-effects REML model

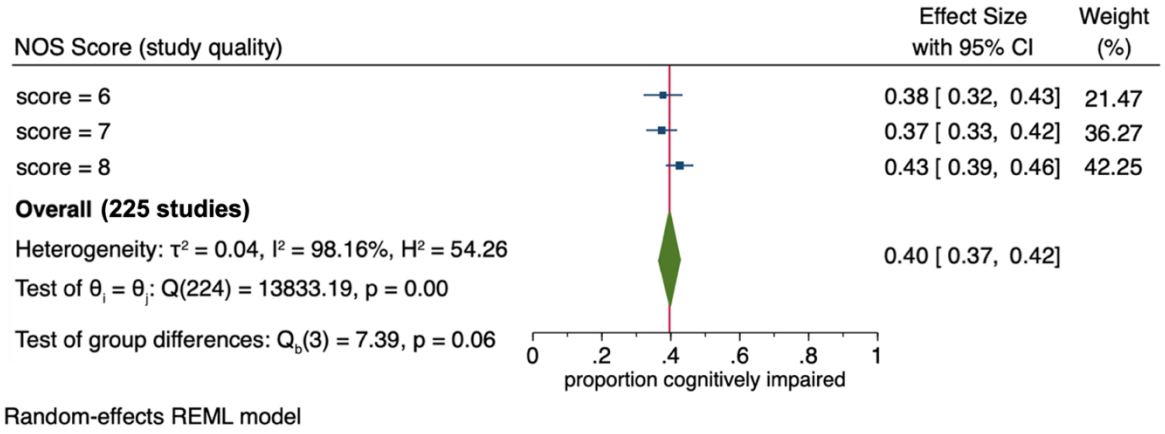
**Supplementary Figure 22: Forest plot including studies without exclusion criteria.**



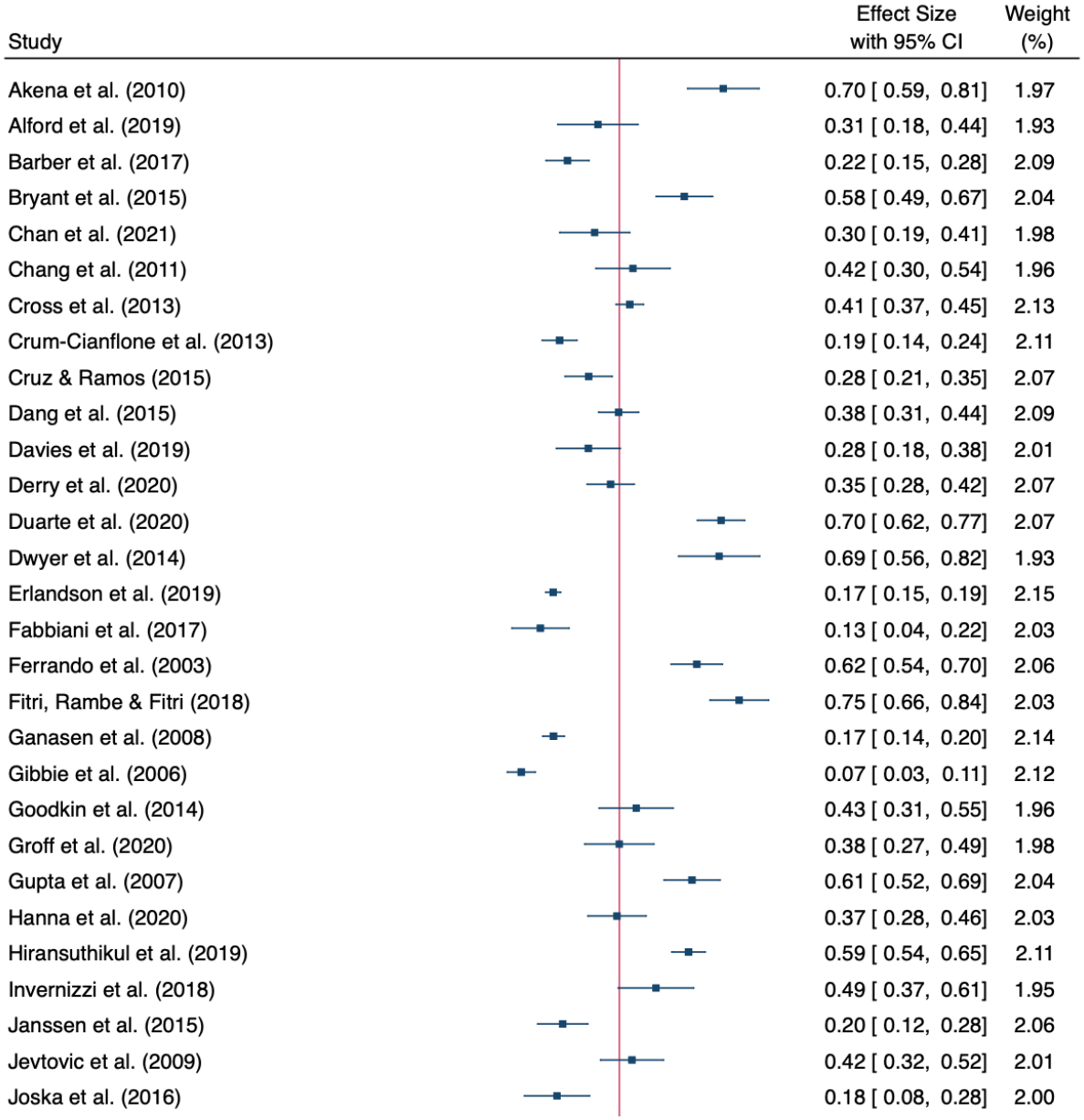
**Supplementary Figure 23: Forest plot including studies with unspecified exclusion criteria.**

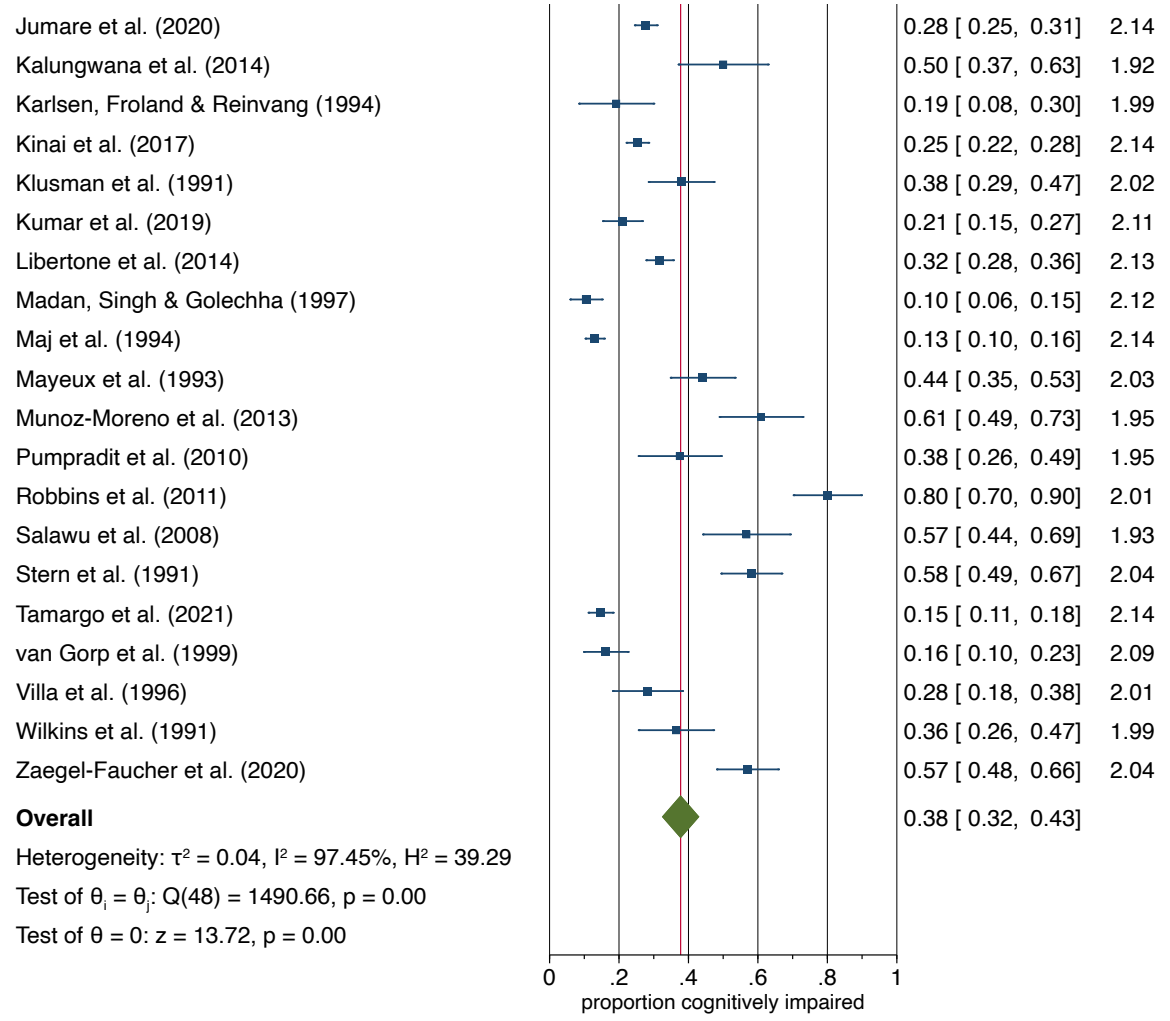


**Supplementary Figure 24: Forest plot of study subgroups by NOS score (study quality).** Figure made using STATA.

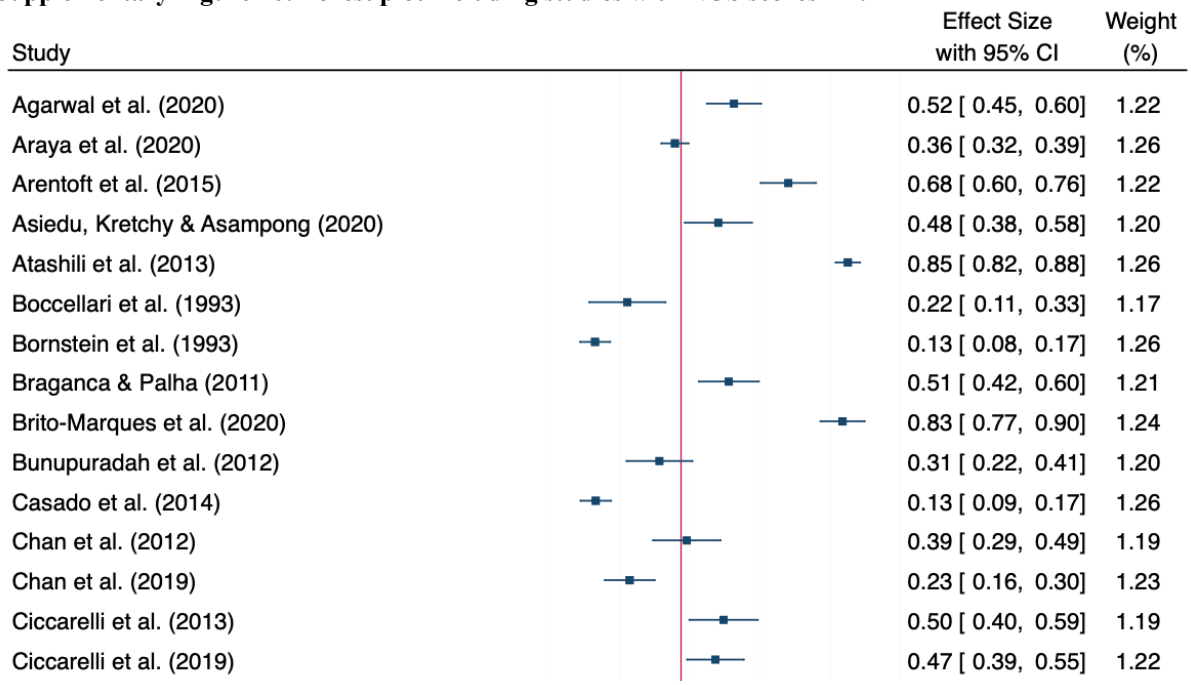


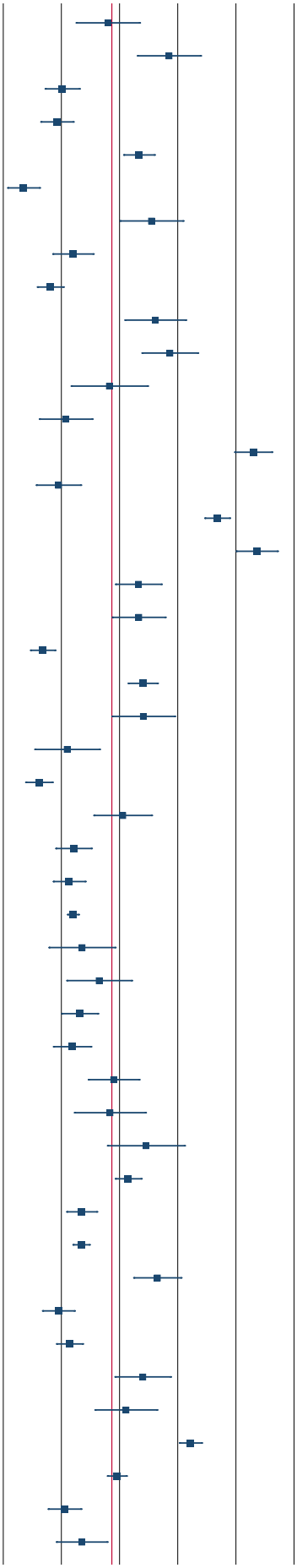

**Supplementary Figure 25: Forest plot including studies with NOS scores = 6.**



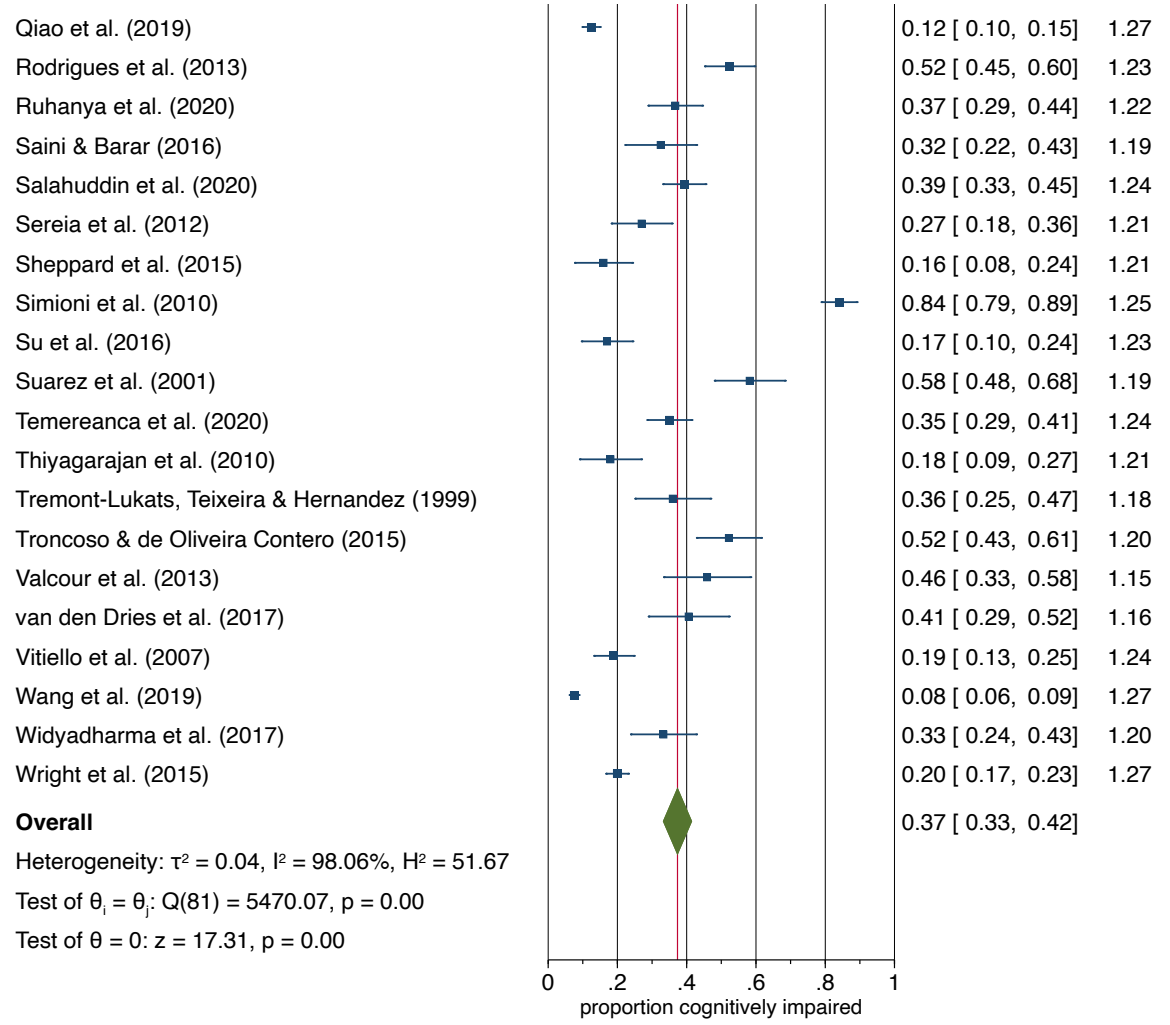



**Supplementary Figure 26: Forest plot including studies with NOS scores = 7.**

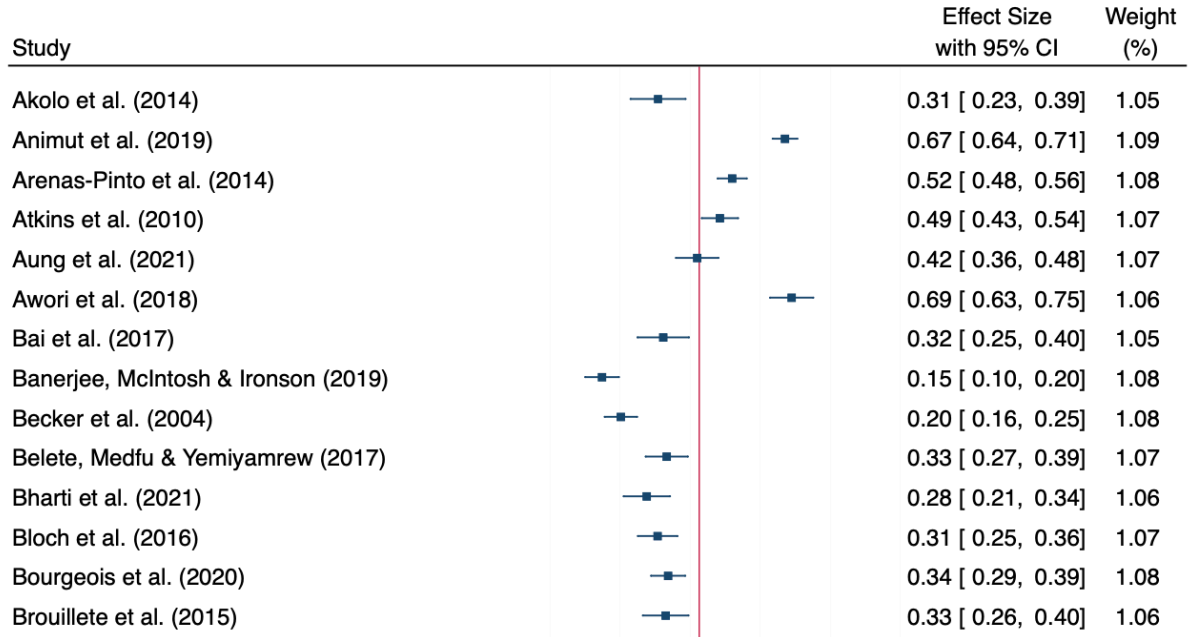


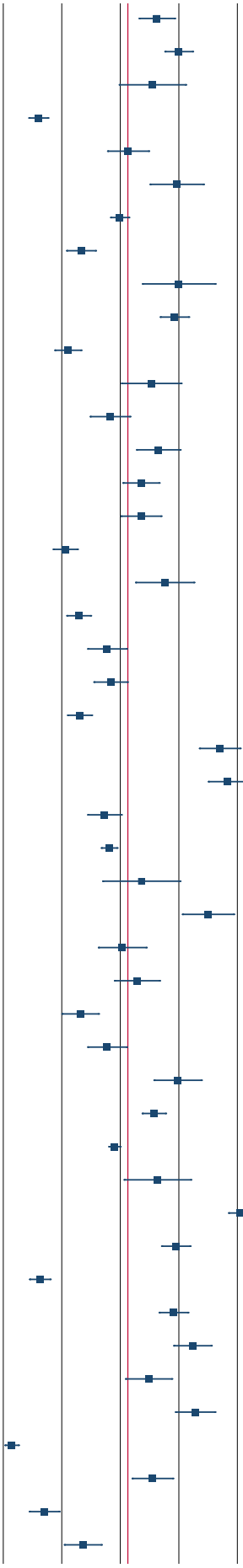


| | | |
|---|---|---|
| Cook et al. (2014) | 0.36 [ 0.25, 0.47] | 1.18 |
| Cook et al. (2016) | 0.57 [ 0.46, 0.68] | 1.18 |
| de Ronchi, Faranca & Berardi (2002) | 0.20 [ 0.14, 0.26] | 1.24 |
| Deiss et al. (2019) | 0.19 [ 0.13, 0.24] | 1.25 |
| Ding et al. (2017) | 0.47 [ 0.41, 0.52] | 1.25 |
| Donne et al. (2020) | 0.07 [ 0.02, 0.12] | 1.25 |
| Estiasari et al. (2015) | 0.51 [ 0.40, 0.62] | 1.18 |
| Fabbiani et al. (2018) | 0.24 [ 0.17, 0.31] | 1.23 |
| Fabbiani et al. (2019) | 0.16 [ 0.12, 0.21] | 1.26 |
| Failde-Garrido et al. (2008) | 0.52 [ 0.42, 0.63] | 1.18 |
| Fialho et al. (2013) | 0.57 [ 0.48, 0.67] | 1.20 |
| Filho & de Melo (2012) | 0.37 [ 0.23, 0.50] | 1.14 |
| Foley et al. (2013) | 0.22 [ 0.12, 0.31] | 1.20 |
| Gandhi et al. (2011) | 0.86 [ 0.80, 0.92] | 1.24 |
| Garvey, Surendrakumar & Winston (2011) | 0.19 [ 0.11, 0.27] | 1.22 |
| Gascon et al. (2018) | 0.74 [ 0.69, 0.78] | 1.26 |
| Grauer et al. (2015) | 0.87 [ 0.80, 0.94] | 1.23 |
| Greene et al. (2015) | 0.47 [ 0.39, 0.54] | 1.22 |
| Grima et al. (2012) | 0.47 [ 0.38, 0.56] | 1.20 |
| Grund et al. (2013) | 0.14 [ 0.09, 0.18] | 1.26 |
| Gupta & Venugopal (2020) | 0.48 [ 0.43, 0.53] | 1.25 |
| Halman et al. (2014) | 0.48 [ 0.37, 0.59] | 1.18 |
| Holguin et al. (2011) | 0.22 [ 0.11, 0.33] | 1.17 |
| Imam (2007) | 0.12 [ 0.08, 0.17] | 1.26 |
| Janssen et al. (1989) | 0.41 [ 0.31, 0.51] | 1.19 |
| Jumare et al. (2019) | 0.24 [ 0.18, 0.30] | 1.24 |
| Kalayjian et al. (2014) | 0.23 [ 0.17, 0.28] | 1.25 |
| Kalayjian et al. (2019) | 0.24 [ 0.22, 0.26] | 1.27 |
| Kamal et al. (2017) | 0.27 [ 0.16, 0.38] | 1.17 |
| Kamat et al. (2017) | 0.33 [ 0.22, 0.44] | 1.17 |
| Kim et al. (2016) | 0.26 [ 0.20, 0.32] | 1.24 |
| Kupprat et al. (2017) | 0.24 [ 0.17, 0.30] | 1.24 |
| Lawler et al. (2010) | 0.38 [ 0.29, 0.47] | 1.21 |
| Lawler et al. (2011) | 0.37 [ 0.25, 0.49] | 1.15 |
| Lu et al. (2014) | 0.49 [ 0.36, 0.62] | 1.13 |
| Marin-Webb et al. (2016) | 0.43 [ 0.39, 0.47] | 1.26 |
| McCutchan et al. (2007) | 0.27 [ 0.22, 0.32] | 1.25 |
| Metral et al. (2020) | 0.27 [ 0.24, 0.30] | 1.27 |
| Mogambery et al. (2017) | 0.53 [ 0.45, 0.61] | 1.22 |
| Moore et al. (2012) | 0.19 [ 0.14, 0.24] | 1.25 |
| Mukherjee et al. (2018) | 0.23 [ 0.18, 0.27] | 1.26 |
| Munoz-Moreno et al. (2008) | 0.48 [ 0.38, 0.58] | 1.20 |
| Munoz-Moreno et al. (2010) | 0.42 [ 0.32, 0.53] | 1.18 |
| Nakku, Kinyada & Hoskins (2013) | 0.64 [ 0.61, 0.68] | 1.26 |
| Naveed et al. (2021) | 0.39 [ 0.36, 0.42] | 1.26 |
| Njamnshi et al. (2008) | 0.21 [ 0.16, 0.27] | 1.25 |
| Pereda et al. (2000) | 0.27 [ 0.18, 0.36] | 1.21 |

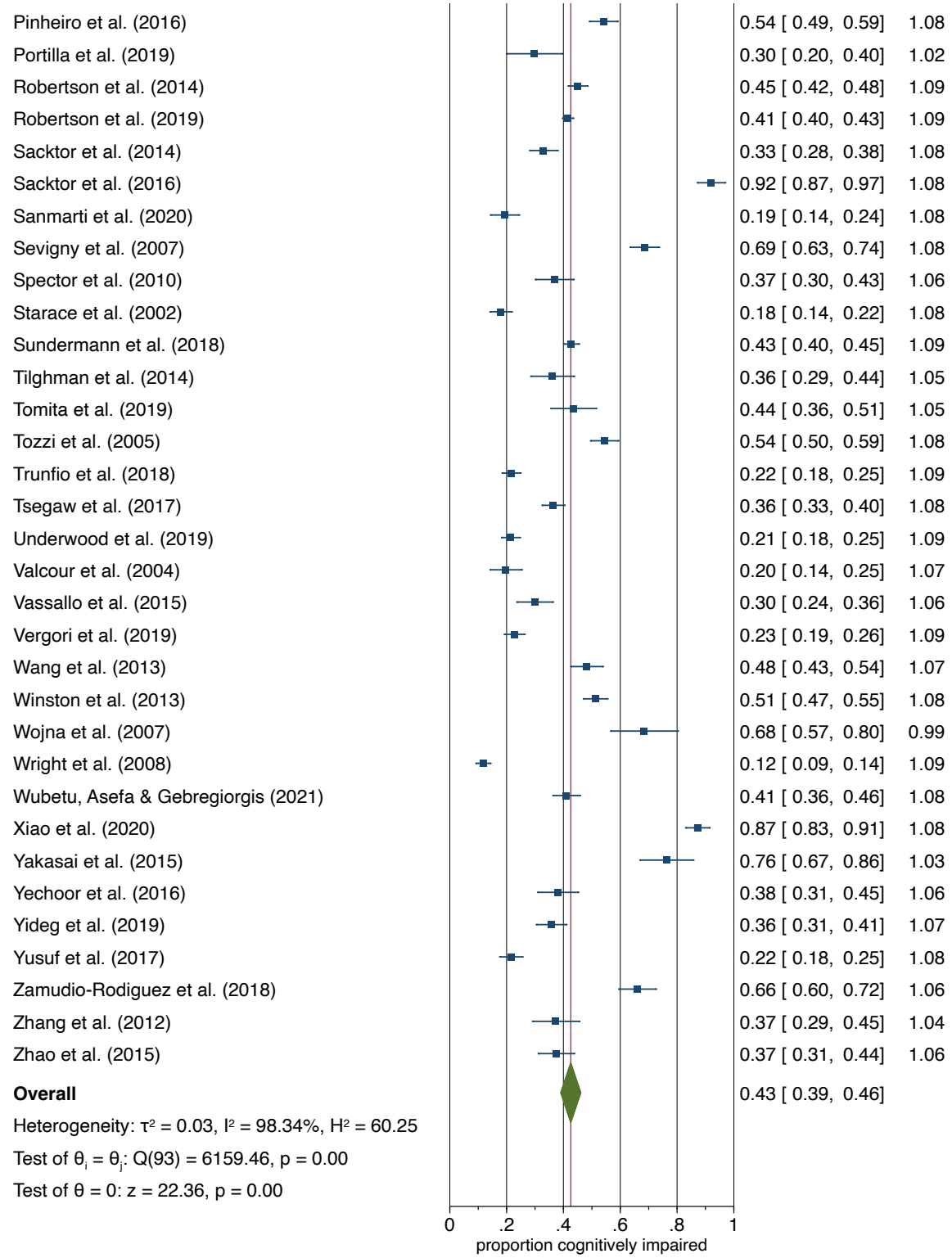



**Supplementary Figure 27: Forest plot including studies with NOS scores = 8.**



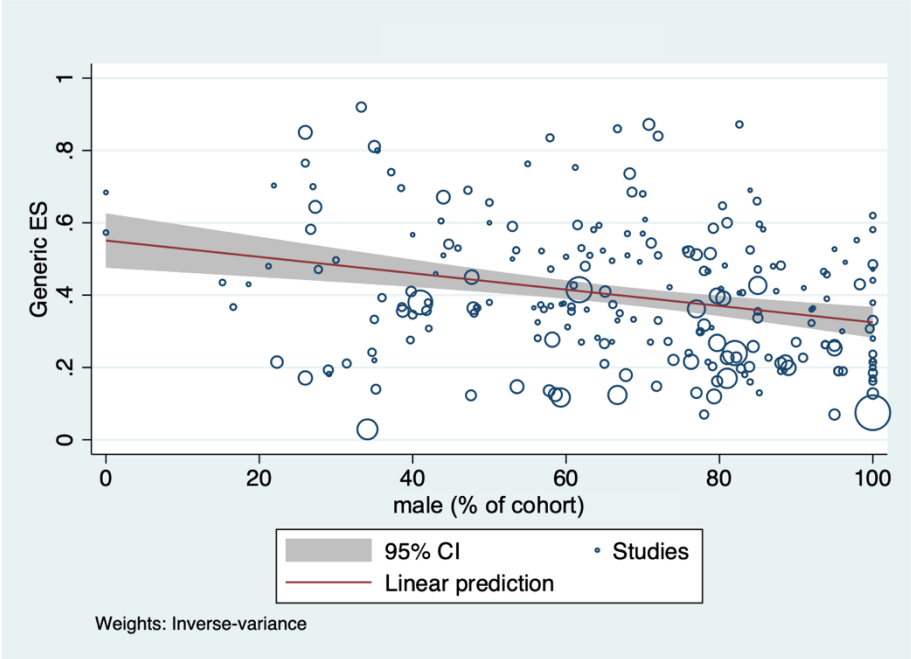


| | | |
|---|---|---|
| Brouillette et al. (2021) | 0.52 [ 0.46, 0.59] | 1.07 |
| Carvalhal et al. (2016) | 0.60 [ 0.55, 0.65] | 1.08 |
| Chalermchai et al. (2013) | 0.51 [ 0.40, 0.62] | 1.00 |
| Ciccarelli et al. (2011) | 0.12 [ 0.09, 0.15] | 1.09 |
| Cysique et al. (2010) | 0.43 [ 0.36, 0.50] | 1.06 |
| Dampier et al. (2017) | 0.59 [ 0.50, 0.68] | 1.03 |
| Darling et al. (2021) | 0.40 [ 0.37, 0.43] | 1.09 |
| Day et al. (2016) | 0.27 [ 0.22, 0.32] | 1.08 |
| de Almeida et al. (2017) | 0.60 [ 0.48, 0.72] | 0.98 |
| Dufouil et al. (2015) | 0.58 [ 0.54, 0.63] | 1.08 |
| Dufour et al. (2013) | 0.22 [ 0.18, 0.27] | 1.08 |
| Elham et al. (2020) | 0.51 [ 0.40, 0.61] | 1.01 |
| Ene et al. (2016) | 0.37 [ 0.30, 0.43] | 1.06 |
| Fazeli, Woods & Vance (2019) | 0.53 [ 0.46, 0.60] | 1.05 |
| Flatt et al. (2021) | 0.47 [ 0.41, 0.53] | 1.07 |
| Foca et al. (2016) | 0.47 [ 0.40, 0.54] | 1.06 |
| Gomez et al. (2019) | 0.21 [ 0.17, 0.25] | 1.08 |
| Gott et al. (2017) | 0.55 [ 0.45, 0.65] | 1.02 |
| Haddow et al. (2018) | 0.26 [ 0.22, 0.30] | 1.08 |
| Heaton et al. (2008) | 0.35 [ 0.29, 0.42] | 1.06 |
| Hestad et al. (2019) | 0.37 [ 0.31, 0.42] | 1.07 |
| Imai et al. (2020) | 0.26 [ 0.22, 0.30] | 1.08 |
| Joska et al. (2011) | 0.74 [ 0.67, 0.81] | 1.06 |
| Joska et al. (2019) | 0.76 [ 0.70, 0.83] | 1.06 |
| Kabuba et al. (2017) | 0.35 [ 0.29, 0.40] | 1.07 |
| Kallianpur et al. (2016) | 0.36 [ 0.34, 0.39] | 1.09 |
| Kamminga et al. (2017) | 0.47 [ 0.34, 0.60] | 0.96 |
| Kelly et al. (2014) | 0.70 [ 0.61, 0.79] | 1.03 |
| Kemp et al. (2021) | 0.41 [ 0.33, 0.49] | 1.04 |
| Korten et al. (2021) | 0.46 [ 0.38, 0.53] | 1.05 |
| Ku et al. (2014) | 0.26 [ 0.20, 0.32] | 1.06 |
| Makinson et al. (2020) | 0.35 [ 0.29, 0.42] | 1.06 |
| Matchanova et al. (2020) | 0.60 [ 0.52, 0.68] | 1.04 |
| McNamara et al. (2017) | 0.51 [ 0.48, 0.55] | 1.08 |
| Milanini et al. (2017) | 0.38 [ 0.36, 0.40] | 1.09 |
| Milanini et al. (2020) | 0.53 [ 0.41, 0.64] | 1.00 |
| Mohamed, Oduor & Kinyanjui (2020) | 0.81 [ 0.77, 0.85] | 1.08 |
| Molinaro et al. (2020) | 0.59 [ 0.54, 0.64] | 1.08 |
| Mugendi et al. (2019) | 0.12 [ 0.09, 0.16] | 1.09 |
| Namagga et al. (2019) | 0.58 [ 0.53, 0.63] | 1.08 |
| Nichols et al. (2013) | 0.65 [ 0.58, 0.71] | 1.06 |
| Nyamayaro et al. (2020) | 0.50 [ 0.42, 0.58] | 1.05 |
| Odiase, Ogunrin & Ogunniyi (2006) | 0.66 [ 0.59, 0.72] | 1.06 |
| Oshinaike et al. (2012) | 0.03 [ 0.01, 0.05] | 1.09 |
| Overton et al. (2013) | 0.51 [ 0.44, 0.58] | 1.06 |
| Patel et al. (2010) | 0.14 [ 0.09, 0.19] | 1.08 |
| Perez-Valero et al. (2013) | 0.27 [ 0.21, 0.34] | 1.06 |

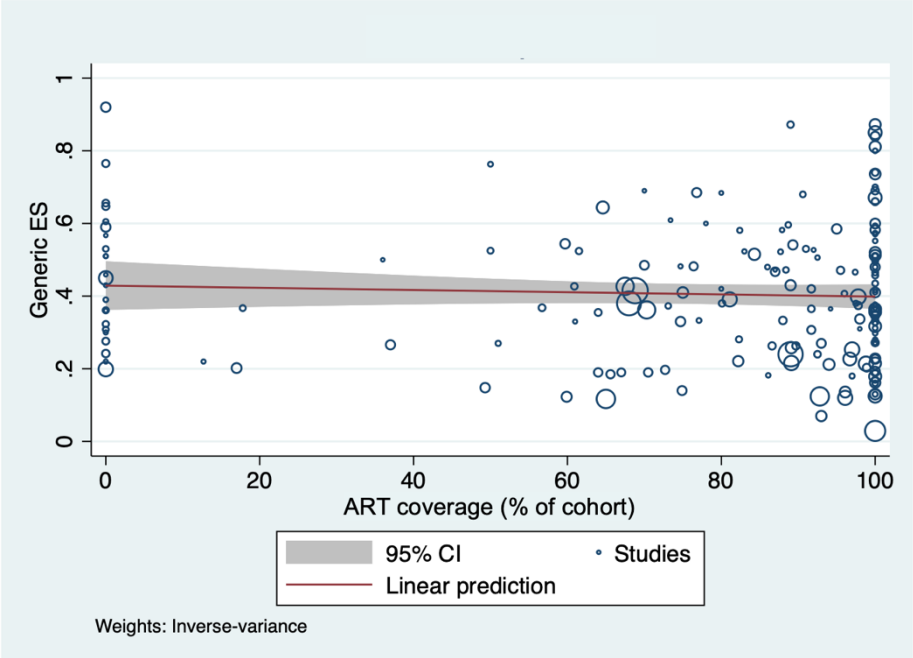



Random-effects REML model

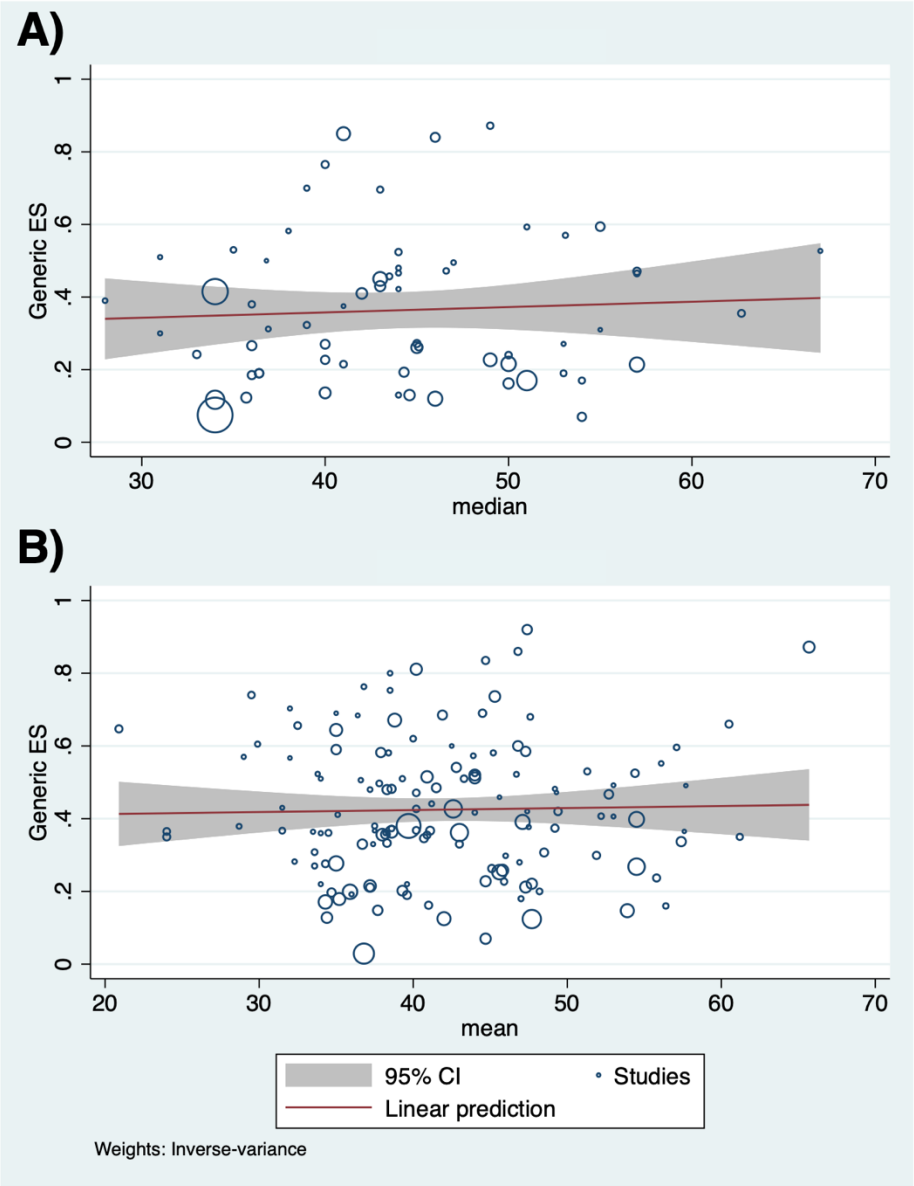
**Supplementary Figure 28: Bubble plot of cognitive impairment by gender.** 221 studies reported the gender of their participants. The size of the data points reflects the study's sample size. Figure made using STATA.



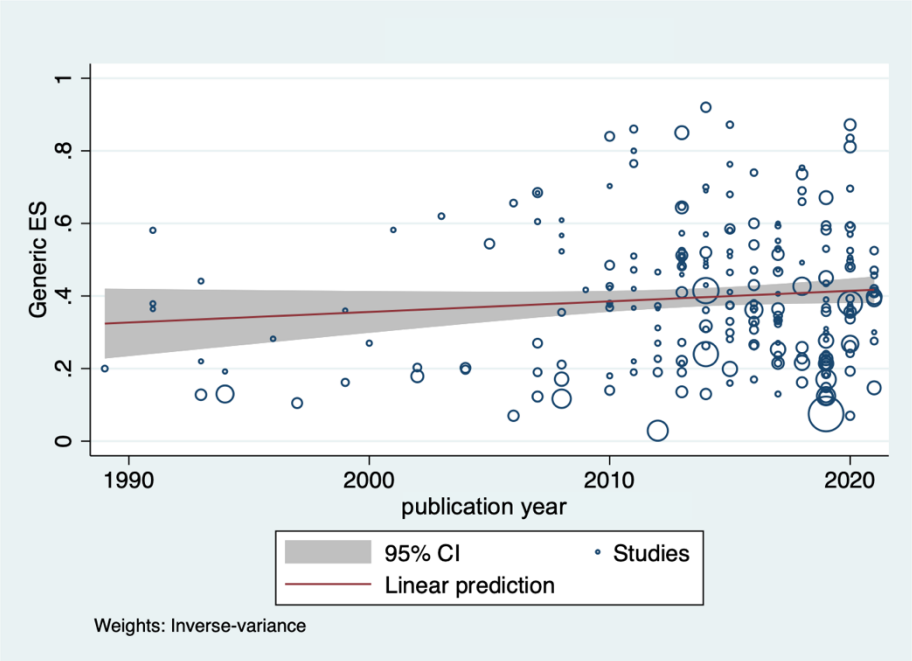

**Supplementary Figure 29: Bubble plot of cognitive impairment by ART coverage.** 181 studies reported ART coverage among their participants. The size of the data points reflects the study's sample size. Figure made using STATA.



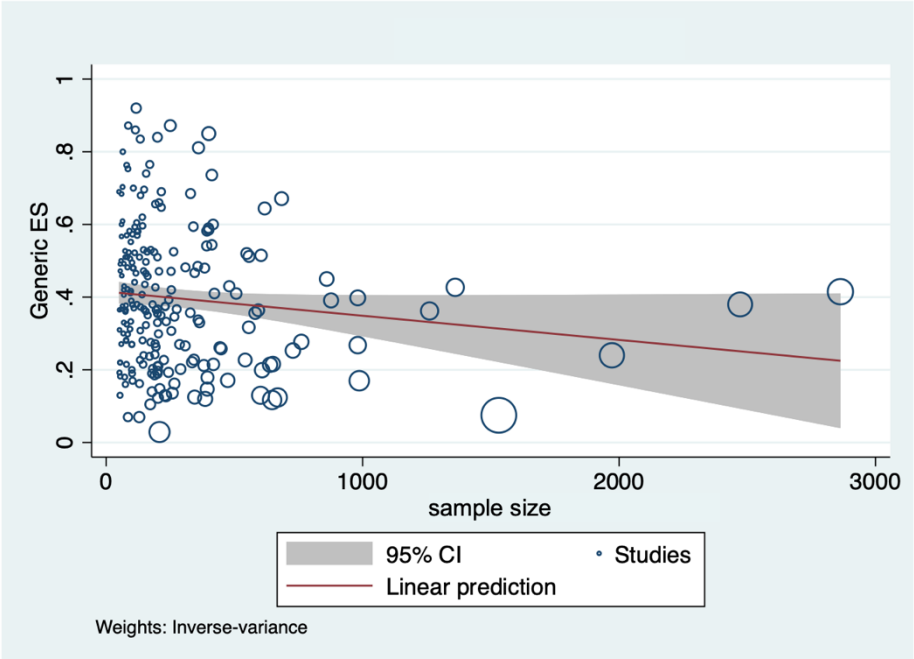
**Supplementary Figure 30: Bubble plot of cognitive impairment by age.** A) 64 studies reported the age as a median. B) 141 studies reported the age as a mean. The size of the data points reflects the study's sample size. Figure made using STATA.



**Supplementary Figure 31: Bubble plot of cognitive impairment by publishing year.** All studies are included in this plot. The size of the data points reflects the study's sample size. Figure made using STATA.




**Supplementary Figure 32: Bubble plot of cognitive impairment by sample size.** All studies are included in this plot. The size of the data points reflects the study's sample size. Figure made using STATA.



**Supplementary Figure 33: Funnel plot to assess publication bias.** Each data point represents a study. Figure made using STATA.