Supplementary Table 1 Studies included in the systematic review.

| Authors and Year | Country | Subjects | Sample  size | Multi  cultural | Scoring system | Modality of administration | Modality of scoring | Variables  explored | Variables having an effect |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (Ainslie & Murden, 1993) | USA | HS | 110 |  | (Shulman, Shedletsky, & Silver, 1986) | Pd | Qnt | lE | lE |
| (Shulman, Pushkar Gold, Cohen, & Zucchero, 1993) | Pd | Qnt | lE | lE |
| (Sunderland et al., 1989) | Fd | Qnt | lE | lE |
| (Wolf-Klein, Silverstone, Levy, Brod, & Breuer, 1989) | Pd | Qlt | lE | - |
| (Alegret et al., 2012) | ESP | HS | 332 |  | (Golden, 1980) | Fd | Qnt | L, lE | - |
| (Alipour & Goldust, 2016) | IRN | HS | 500 |  | (D. R Royall, Cordes, & Polk, 1998) | Fd | Qnt | lE | lE |
| (S. Amini et al., 2019) | USA | HS | 678 | X | (Nasreddine et al., 2005) | Fd | Qnt | lE | lE |
| (R. Amini, Sahli, & Ganai, 2021) | USA | HS | 1502 | X | unknown | Fd | Qnt | lE, E | lE, E |
| (Aprahamian, Martinelli, Neri, & Yassuda, 2010) | BRA | HS + Dem | 220 |  | (Mendez, Ala, & Underwood, 1992) | Fd | Qnt | lE | lE |
| (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Sunderland et al., 1989) | Fd | Qnt | lE | lE |
| (Aydin et al., 2011) | TUR | OutP | 125 |  | (Manos & Wu, 1994) | Pd | Qnt | lE | lE |
| (Balduino, de Melo, de Sousa Mota da Silva, Martinelli, & Cecato, 2020) | BRA | HS | 144 |  | (Mendez et al., 1992) | Fd | Qnt | lE | lE |
| (S. Borson et al., 1999) | USA | HS | 295 | X | (Morris et al., 1989) | Fd | Qnt | L, lE, E | lE |
| (Soo Borson, Scanlan, Brush, Vitaliano, & Dokmak, 2000) | USA | HS + Dem | 249 | X | (Morris et al., 1989) | Fd | Qnt | L, lE | - |
| (Vasilis P Bozikas et al., 2003) | GRC | HS + SZ +Dem | 100 |  | (Freedman et al., 1994) | Fd | Qnt | lE | - |
| (Freedman et al., 1994) | Pd | Qnt | lE | - |
| (Freedman et al., 1994) | Hs | Qnt | lE | - |
| (V. P. Bozikas, Giazkoulidou, Hatzigeorgiadou, Karavatos, & Kosmidis, 2008) | GRC | HS | 223 |  | (Freedman et al., 1994) | Fd | Qnt | lE | lE |
| (Freedman et al., 1994) | Pd | Qnt | lE | lE |
| (Freedman et al., 1994) | Hs | Qnt | lE | lE |
| (Brodaty & Moore, 1997) | AUS | HS + Dem | 56 |  | (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Sunderland et al., 1989) | Fd | Qnt | lE | lE |
| (Wolf-Klein et al., 1989) | Pd | Qlt | lE | lE |
| (Bruce-Keller et al., 2012) | USA | HS + Dem | 100 |  | (Babins, Slater, Whitehead, & Chertkow, 2008) | Fd | Qnt | lE |  |
| (Buckley, Atkins, Silbert, Scott, & Evered, 2022) | AUS | HS | 100 |  | (Nasreddine et al., 2005) | Fd | Qnt | lE |  |
| (Caffarra et al., 2011) | ITA | HS | 248 |  | (Freedman et al., 1994) | Fd | Qnt | lE |  |
| (Freedman et al., 1994) | Pd | Qnt | lE |  |
| (Freedman et al., 1994) | Hs | Qnt | lE |  |
| (Carnero-Pardo & Montoro-Ríos, 2004) | ESP | HS + Dem | 60 | X | (Solomon et al., 1998) | Pd | Qnt | lE, I | I |
| (Cassimiro, Fuentes, Nitrini, & Yassuda, 2016) | BRA | HS | 164 |  | (Shulman et al., 1993) | Pd | Qnt | lE, I | lE |
| (Cecato, Fiorese, Montiel, Bartholomeu, & Martinelli, 2012) | BRA | OutP | 426 |  | (Mendez et al., 1992) | Fd | Qnt | lE | lE |
| (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Sunderland et al., 1989) | Fd | Qnt | lE | lE |
| (Cerezo, Conti, De Cechio, Del Sueldo, & Vicario, 2021) | ARG | HS | 1414 |  | (Cacho, García-García, Arcaya, Vicente, & Lantada, 1999) | Pd | Qnt | lE | lE |
| (Chan, Yung, & Pan, 2005) | CHN | HS + Dem | 85 | X | (Lam et al., 1998) | Pd | Qnt | lE |  |
| (Chester et al., 2011) | USA | HS | 798 |  | (Grande, Milberg, Rudolph, Gaziano, & McGlinchey, 2005) | Fd | Qnt | lE | lE |
| (Colombo, Vaccaro, Vitali, Malnati, & Guaita, 2009) | ITA | OutP | 90 | X | (Mendez et al., 1992) | Fd | Qnt | lE | lE |
| (Cooke, Gustafsson, & Tardiani, 2009) | AUS | Stroke | 197 |  | (Cooke, McKenna, & Fleming, 2005) | Fd | Qnt | lE | lE |
| (Davoudi et al., 2020) | USA | HS + PD | 316 |  | (Souillard-Mandar et al., 2016) | Fd | Qlt | lE | lE |
| (Davoudi et al., 2021) | USA | HS | 272 |  | (Souillard-Mandar et al., 2016) | Fd | Qlt | lE | lE |
| (de Paula et al., 2013) | BRA | HS + Dem | 155 |  | (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Flaks et al., 2006) | BRA | OutP | 50 |  | (Sunderland et al., 1989) | Fd | Qnt | lE | lE |
| (Forti, Olivelli, Rietti, Maltoni, & Ravaglia, 2010) | ITA | MCI | 132 |  | (D. R Royall et al., 1998) | Fd | Qnt | lE | lE |
| (Fuchs, Wiese, Altiner, Wollny, & Pentzek, 2012) | DEU | HS | 423 |  | (Sunderland et al., 1989) | Fd | Qnt | lE | lE |
| (Fuzikawa, Lima-Costa, Uchoa, Barreto, & Shulman, 2003) | BRA | HS | 202 |  | (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Garrett et al., 2019) | USA | HS | 893 | X | (D. R Royall et al., 1998) | Fd | Qnt | E | E |
| (Gómez, Zunzunegui, Lord, Alvarado, & García, 2013) | COL | HS | 150 |  | (Nasreddine et al., 2005) | Fd | Qnt | lE, I | lE, I |
| (Grober et al., 2008) | USA | HS + Dem | 318 | X | (Freedman et al., 1994) | Fd | Qnt | E | E |
| (Gruber, Varner, Chen, & Lesser, 1997) | USA | GEROPSY | 145 |  | (Wolf-Klein et al., 1989) | Pd | Qlt | lE |  |
| (Heinik, Solomesh, Shein, & Becker, 2002) | ISR | Dem | 49 |  | (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Freedman et al., 1994) | Fd | Qnt | lE | lE |
| (Hershkovitz, Jacubovski, Alima Bot, Oshry, & Brill, 2010) | ISR | HS | 142 |  | (Watson, Arfken, & Birge, 1993) | Fd | Qlt | lE | lE |
| (Hill, Bäckman, Wahlin, & Winblad, 1995) | SWE | Dem | 98 |  | (Christensen, 1984) | Hs | Qnt | lE |  |
| (Hubbard et al., 2008) | USA | HS | 207 | X | (Freund, Gravenstein, Ferris, Burke, & Shaheen, 2005) | Fd | Qnt | lE, qE, E | qE |
| (Mendez et al., 1992) | Fd | Qnt | lE, qE, E | qE |
| (Rouleau, Salmon, Butters, Kennedy, & McGuire, 1992) | Fd | Qnt | lE, qE, E | qE |
| (Cahn, 1996) | Fd | Qlt | lE, qE, E | qE, E |
| (Cahn, 1996) | Fd | Glb | lE, qE, E | lE, qE, E |
| (Hubbard et al., 2008) | Fd | Qnt | lE, qE, E | qE |
| (the Working Group et al., 2019) | ITA | HS | 307 |  | Unknown | - | Qnt | lE | lE |
| (Johnson, Flicker, & Lichtenberg, 2006) | USA | HS | 100 | X | (D. R Royall et al., 1998) | Fd | Qnt | lE, qE | lE |
| (Kaneda et al., 2010) | JPN | SZ | 239 |  | (Freedman et al., 1994) | Fd | Qnt | lE | lE |
| (Freedman et al., 1994) | Pd | Qnt | lE | lE |
| (Freedman et al., 1994) | Hs | Qnt | lE | lE |
| (Kim & Chey, 2010) | KOR | HS | 240 |  | (Todd, Dammers, Adams, Todd, & Morrison, 1995) | Fd | Qnt | lE, I | lE, I |
| (Rouleau et al., 1992) | Hs | Qlt | lE, I | lE, I |
| (LaRue, Romero, Ortiz, Chi Lang, & Lindeman, 1999) | USA | HS | 883 | X | (Goodglass & Kaplan, 1983) | Pd | Qnt | L, lE, E | L, lE, E |
| (Lam et al., 1998) | HKG | HS + Dem | 106 |  | (Lam et al., 1998) | Pd | Qnt | lE | lE |
| (Leissing-Desprez et al., 2020) | FRA | OutP | 488 |  | (Solomon et al., 1998) | Pd | Qnt | lE | lE |
| (Lessig, Scanlan, Nazemi, & Borson, 2008) | USA | OutP | 536 | X | (Lessig et al., 2008) | Fd | Qlt | L, lE, E | lE |
| (Lieberman et al., 1999) | ISR | HS + Stroke | 425 |  | (Fisher & Flowerdew, 1995) | Pd | Qnt | lE | lE |
| (Lin et al., 2003) | TWN | HS + Dem | 403 |  | (Lin et al., 2003) | Pd | Qnt | lE | lE |
| (Lolekha, Tangkanakul, Saengchatri, & Kulkeartprasert, 2021) | THA | PD | 136 |  | (Lolekha et al., 2021) | Fd | Qnt | lE | lE |
| (Lourenço, Ribeiro-Filho, Moreira, Paradela, & Miranda, 2008) | BRA | OutP | 211 |  | (Manos & Wu, 1994) | Pd | Qnt | lE | lE |
| (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Wolf-Klein et al., 1989) | Pd | Qlt | lE | lE |
| (Sunderland et al., 1989) | Fd | Qnt | lE | lE |
| (Lowery et al., 2003) | USA | HS + SZ | 42 |  | (Lowery et al., 2003) | Fd | Qnt | lE |  |
| (Lucero et al., 2019) | CHL | HS | 539 |  | (Mendez et al., 1992) | Fd | Qnt | lE | lE |
| (Luo, Andersson, Tang, & Wong, 2020) | CHN | HS | 1873 |  | (Nasreddine et al., 2005) | Fd | Qnt | I | I |
| (Mahdavi Adeli, Haghighi, & Malakouti, 2016) | IRN | HS | 102 |  | (Watson et al., 1993) | Fd | Qlt | lE | lE |
| (Sunderland et al., 1989) | Fd | Qnt | lE | lE |
| (Marcopulos, Gripshover, Broshek, McLain, & McLain, 1999) | USA | HS + Dem | 180 | X | (Spreen & Strauss, 1998) | - | Qnt | lE |  |
| (Marcopulos, McLain, & Giuliano, 1997) | USA | HS | 133 | X | (Sunderland et al., 1989) | Fd | Qnt | lE, E | lE |
| (Matsuoka et al., 2014) | JPN | HS + MCI + Dem | 176 |  | (D. R Royall et al., 1998) | Fd | Qnt | lE | lE |
| (Matusz et al., 2022) | USA | HC+MCI | 103 |  | (Rentz et al., 2021) | Fd | Qnt | lE | lE |
| (Mazancova, Nikolai, Stepankova, Kopecek, & Bezdicek, 2017) | CZE | HS | 390 |  | (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Babins et al., 2008) | Pd | Qnt | lE | lE |
| (Cohen, Ricci, Kibby, & Edmonds, 2000) | Pd | Qnt | lE | lE |
| (Melikyan et al., 2019) | USA | HS | 403 |  | (Melikyan et al., 2019) | Pd | Qnt | lE | - |
| (Menon, Hall, Hobson, Johnson, & O’Bryant, 2012) | USA | HS | 278 | X | (D. R Royall et al., 1998) | Fd | Qnt | L, lE, E | lE |
| (Merims, Ben Natan, Milawi, & Boguslavsky, 2018) | ISR | HS | 295 |  | (Freedman et al., 1994) | Fd | Qnt | lE | lE |
| (Freedman et al., 1994) | Pd | Qnt | lE | lE |
| (Freedman et al., 1994) | Hs | Qnt | lE | lE |
| (Mokri et al., 2012) | MEX | HS | 175 |  | (Mokri et al., 2012) | Fd | Qnt | I | I |
| (Narsi, Tomita, & Ramlall, 2021) | ZAF | HS | 211 |  | (D. R Royall et al., 1998) | Fd | Qnt | lE | lE |
| (Nerg et al., 2021) | FIN | HYD + HS | 508 |  | (Mokri et al., 2012) | Fd | Qnt | lE | lE |
| (Nielsen et al., 2018)Nielsen | DEU, BEL, DNK, SWE, NOR, GRC | HS | 330 | X | (Shulman et al., 1993) | Pd | Qnt | lE, E | lE |
| (Nielsen & Jørgensen, 2013) | DNK | HS | 40 | X | (Shulman et al., 1993) | Pd | Qnt | I, A | I |
| (Njamnshi et al., 2020) | CMR | HS + EP | 80 |  | (Mendez et al., 1992) | Fd | Qnt | lE | lE |
| (Nyborn et al., 2013) | USA | HS | 1476 |  | (Nyborn et al., 2013) | Fd | Qlt | lE | lE |
| (O’Bryant et al., 2018) | USA | HS + MCI + Dem | 797 |  | (D. R Royall et al., 1998) | Fd | Qnt | L, lE | lE |
| (Ortega et al., 2021) | BRA | HS + Dem | 117 |  | (Shulman et al., 1993) | Pd | Qnt | I | I |
| (Paganini-Hill & Clark, 2007) | USA | HS | 1744 |  | (Paganini-Hill, Clark, Henderson, & Birge, 2001) | Pd | Qnt | lE | lE |
| (Pagonabarraga et al., 2010) | ESP | PD | 102 |  | (Pagonabarraga et al., 2010) | Fd | Qnt | lE | lE |
| (Paula, Miranda, Moraes, & Malloy-Diniz, 2013) | BRA | HS + MCI + Dem | 170 |  | (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Rakusa, Jensterle, & Mlakar, 2018) | SVN | HS + MCI + Dem | 188 |  | (Rakusa et al., 2018) | Pd | Qnt | lE | lE |
| (Ravaglia et al., 2003) | ITA | HS | 744 |  | (Sunderland et al., 1989) | Fd | Qnt | lE | lE |
| (Wolf-Klein et al., 1989) | Pd | Qlt | lE | lE |
| (D. R Royall et al., 1998) | USA | HS + Dem | 152 |  | (D. R Royall et al., 1998) | Fd | Qnt | lE | lE |
| (D. R. Royall, Mulroy, Chiodo, & Polk, 1999) | USA | HS + Dem | 85 |  | (D. R Royall et al., 1998) | Fd | Qnt | lE | lE |
| (Shulman et al., 1993) | Pd | Qnt | lE | - |
| (Sunderland et al., 1989) | Fd | Qnt | lE | - |
| (Rouleau et al., 1992) | Fd | Qnt | lE | lE |
| (Mendez et al., 1992) | Fd | Qnt | lE | - |
| (Manos & Wu, 1994) | Pd | Qnt | lE | lE |
| (Donald R. Royall et al., 2003) | USA | HS | 1175 |  | (D. R Royall et al., 1998) | Fd | Qnt | L, lE, A | lE, A |
| (Santana, Duro, Freitas, Alves, & Simoes, 2013) | PRT | HS | 630 |  | (Rouleau et al., 1992) | Fd | Qnt | lE | lE |
| (Cahn, 1996) | Fd | Glb | lE | lE |
| (Babins et al., 2008) | Fd | Qnt | lE | lE |
| (Scarabelot, Monteiro, Rubert, & Zetola, 2019) | BRA | HS | 97 |  | (Nitrini et al., 2004) | Fd | Qnt | lE | lE |
| (Schillerstrom et al., 2007) | USA | HS | 910 | X | (D. R Royall et al., 1998) | Fd | Qnt | lE | - |
| (Seigerschmidt, Mösch, Siemen, Förstl, & Bickel, 2002) | DEU | HS + MCI | 253 |  | (Manos & Wu, 1994) | Pd | Qnt | lE | lE |
| (Senger, Bruscato, Werle, Moriguchi, & Pattussi, 2019) | BRA | HS | 153 |  | (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Shanhu et al., 2019) | CHN | HS | 885 |  | (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Shao et al., 2020) | CHN | HS | 418 |  | (Nasreddine et al., 2005) | Fd | Qnt | lE | lE |
| (Rouleau et al., 1992) | Fd | Qnt | lE | lE |
| (Babins et al., 2008) | Fd | Qnt | lE | lE |
| (Siciliano et al., 2016) | ITA | HS | 872 |  | (Rouleau et al., 1992) | Fd | Qnt | lE | lE |
| (Sinclair, Girling, & Bayer, 2000) | GBR | HS | 789 |  | simple nominal scale of correct or  incorrect | Pd | Qlt | lE | lE |
| (Stewart, Richards, Brayne, & Mann, 2001) | GBR | HS | 285 |  | (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Storey, Rowland, Basic, & Conforti, 2002) | AUS | OutP | 93 | X | (Mendez et al., 1992) | Fd | Qnt | lE, E | E |
| (Shulman et al., 1993) | Pd | Qnt | lE, E | E |
| (Sunderland et al., 1989) | Fd | Qnt | lE, E | lE, E |
| (Watson et al., 1993)w | Fd | Qlt | lE, E | E |
| (Wolf-Klein et al., 1989) | Pd | Qlt | lE, E | - |
| (Morris et al., 1989) | Fd | Qnt | lE, E | E |
| (Sugawara et al., 2010) | JPN | HS | 873 |  | (Freedman et al., 1994) | Fd | Qnt | lE | lE |
| (Freedman et al., 1994) | Pd | Qnt | lE | - |
| (Freedman et al., 1994) | Hs | Qnt | lE | lE |
| (Fabricio, Aprahamian, & Yassuda, 2014) | BRA | HS | 180 |  | (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Sunderland et al., 1989) | Fd | Qnt | lE | lE |
| (Parsey & Schmitter-Edgecombe, 2011) | Fd | Qlt | lE | lE |
| (Tuokko, Hadjistavropoulos, Miller, & Beattie, 1992) | CAN | HS + Dem | 120 |  | (Tuokko et al., 1992) | Pd | Qlt | lE | lE |
| (Goodglass & Kaplan, 1983) | Hs | Qnt | lE | lE |
| (Turcotte et al., 2018) | CAN | HS | 593 |  | (Rouleau et al., 1992) | Fd | Qnt | lE | lE |
| (Umegaki et al., 2021) | JPN | OutP | 279 |  | (Cahn, 1996) | Fd | Qlt | lE | lE |
| (VanderJagt et al., 2007) | NGA | OutP | 66 |  | (Tuokko et al., 1992) | Fd | Qlt | lE, I | lE, I |
| (Goodglass & Kaplan, 1983) | Hs | Qnt | lE | lE |
| (von Gunten et al., 2008) | CHE | HS | 242 |  | (von Gunten et al., 2008) | Pd | Qnt | lE | lE |
| (Whittle et al., 2007) | USA | HS | 339 |  | Unknown | Fd | Qnt | lE | lE |
| (Wong et al., 2004) | CHN | HS + Stroke | 68 |  | (D. R Royall et al., 1998) | Fd | Qnt | lE | lE |
| (Yamamoto et al., 2004) | JPN | OutP | 219 |  | (Sunderland et al., 1989) | Fd | Qnt | lE | - |
| (Rouleau et al., 1992) | Fd | Qnt | lE | - |
| (Cahn, 1996) | Fd | Glb | lE | - |
| (Yap, Ng, Niti, Yeo, & Henderson, 2007) | SGP | HS + Dem | 148 |  | (D. R Royall et al., 1998) | Fd | Qnt | lE | lE |
| (M. S. Yassuda et al., 2009) | BRA | HS | 71 |  | (Sunderland et al., 1989) | Fd | Qnt | lE | - |
| (Mônica Sanches Yassuda et al., 2012) | BRA | HS | 384 |  | (Shulman et al., 1993) | Pd | Qnt | lE | lE |
| (Zimmermann et al., 2011) | USA | HS | 569 |  | (Shulman et al., 1986) | Fd | Qnt | lE | lE |

A=Acculturation; ARG: Argentina; AUS: Australia; BEL: Belgium; BRA: Brazil; CAN: Canada; CHE: [Switzerland](https://en.wikipedia.org/wiki/Switzerland); CHL: Chile; CHN: China; CMR: Cameroon; COL: Colombia; CZE: [Czech Republic](https://en.wikipedia.org/wiki/Czech_Republic); Dem: dementia; DEU: Germany; DNK: Denmark; E=Ethnicity; EP: epilepsy; ESP: Spain; Fd: free-drawn clock; FIN: Finland; FRA: France; GBR: United Kingdom; GEROPSY: Geropsychiatry Clinic; Glb: global; GRC: Greece; HKG: Hong Kong; HS: Healthy subjects; Hs: hand setting; HYD: hydrocephalus; I=illiteracy; IRN: Iran; ISR: Israel; ITA: Italy; JPN: Japan; KOR: South Korea; L=Language of administration; lE=level of Education; MCI: mild cognitive impairment; MEX: Mexico; NGA: Nigeria; NOR: Norway; OutP: outpatients; PD: Parkinson disease; Pd: pre-drawn clock; PRT: Portugal; qE=quality of Education; Qlt: qualitative; Qnt: quantitative; SGP: Singapore; SVN: Slovenia; SWE: Sweden; SZ: schizophrenia; THA: Thailand; TUR: Turkey; TWN: Taiwan; USA: [United States of America](https://en.wikipedia.org/wiki/United_States); ZAF: [South Africa](https://en.wikipedia.org/wiki/South_Africa)

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