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| --- | --- | --- | --- | --- | --- |
| Studies | age | Groups | Task | Assessed construct  (as mentioned in the study) | Group differences |
| Lorenzo J et al., 2013[1] | NF1 mean age=40.23 mo  NCs mean age=40.16 mo | NF1=43  NCs=43 | The Delay Alternation task | Nonverbal WM | — |
| Casnar C L et al., 2017[2] | NF1 mean age=4.53 y  NCs mean age=4.51 y | NF1=26  NCs=37 | BRIEF-P | WM | NF1 < NCs |
| Chaix Y et al., 2018[3] | NF1 mean age=10 y  NCs mean age=10 y | NF1=75  NCs=75 | Corsi blocks  WMI of the WISC-IV  The pseudoword repetition task | Spatial WM Forward span  Spatial WM Backward span  Auditory-verbal WM  Phonological short-term WM | —  NF1 < NCs  —  — |
| Payne J M et al., 2012[4] | NF1 mean age=11 y  NCs mean age=10 y | NF1=49  NCs=30 | CANTAB | Spatial WM | NF1 < NCs |
| Lehtonen A et al., 2015[5] | NF1 mean age=11y9 mo  NCs mean age=10y7 mo | NF1=49  NCs=19 | Spatial WM task  BRIEF | Spatial WM  WM | NF1 < NCs  NF1 < NCs |
| Payne J M et al., 2011[6] | NF1 mean age=10.62 y  NCs mean age=11.24 y | NF1=199  NCs=55 | BRIEF | WM | NF1 < NCs |
| Hyman S L et al., 2005[7] | NF1 age range=8-16 y  NCs age range=8-16 y | NF1=81  NCs=49 | The Gap Matching task from BORB  The Line Orientation tasks from BORB | Visual-spatial WM  Visual-spatial WM | NF1 < NCs  NF1 < NCs |
|  |  |  | Digit Span Backward + Digit Span Forward minus Digit Span Backwards | Verbal WM | — |
| Champion J A et al., 2014[8] | NF1 age range=7-17 y  NRV | NF1=46  NRV | WMI of the WISC-IV  SWM BSE of CANTAB  SWM strategy of CANTAB | WM  Spatial WM  Spatial WM | NF1 < NCs  NF1 < NCs  NF1 < NCs |
| Gilboa Y et al.2014[9] | NF1 mean age=12.3 y  NCs mean age=12.4 y | NF1=29  NCs=27 | BRIEF-P | WM | NF1 < NCs |
| Ullrich N J et al., 2010[10] | NF1 mean age=12.8 y  NCs mean age=12.7 y | NF1=10  NCs=6 | CANTAB | Spatial WM | NF1 < NCs |
| Huijbregts S et al., 2010[11] | NF1 age range=6.9–17.4 y  NCs age range=6.0–17.3 y | NF1=30  NCs=30 | The Memory Search 2D Objects (part 1)  The Memory Search 2D Objects (part 2)  The Visuo-Spatial Sequencing-task | WM  WM  Visual-spatial WM + Visuo-temporal WM | —  NF1 < NCs  Both NF1 < NCs |
| Plasschaert E et al., 2016[12] | NF1 age range=8-18 y  NCs age range=8-18 y | NF1=42  NCs=52 | CANTAB  WNV-NL | Spatial WM  Spatial WM | NF1 < NCs  NF1 < NCs |
| Rowbotham I et al., 2009[13] | NF1 age range=11.9–16.8 y  NCs age range=12.2 –16.3 y | NF1=16  NCs=16 | The Memory Search 2D Objects | WM | NF1 < NCs |
| Ferner R E et al., 1996[14] | NF1 age range=6-75 y  NCs age range=6-75 y | NF1=103  NCs=105 | The Sternberg Memory Task | WM | NF1 < NCs |
| Shilyansky C et al., 2010[15] | NF1 mean age=24.00 y  NCs mean age=22.58 y | NF1=14  NCs=12 | Two spatial delayed response tasks | Spatial WM | NF1 < NCs |
| Descheemaeker M J et al., 2013[16] | NF1 mean age=41.1 y  NCs mean age=41.8 y | NF1=20  NCs=20 | Auditory Verbal Learning Test (Dutch version) | Auditory WM | NF1 < NCs |
| Costa Dde S et al., 2014[17] | NF1 mean age=65 y  NCs mean age=70 y | NF1=5  NCs=49 | Digit Span Backward + Digit Span Forward  Corsi Span Backward + Corsi Span Forward | Verbal WM  Spatial WM | NF1 < NCs  NF1 < NCs |

**S1** Previous literature involving WM in NF1 patients

—: no group difference; NF1 performed poorer than NCs; BORB: the Birmingham Object Recognition Battery; BRIEF: Behavior Rating Inventory of Executive Function; BRIEF-P: Behavior Rating Inventory of Executive Function-Preschool; CANTAB: The Spatial Working Memory subtask of the Cambridge Neuropsychological Testing Automated Battery; NCs: normal controls; LNS: the University of Maryland Letter–Number Sequencing task; mo: months; NF1: patients with neurofibromatosis type 1; NRV: normative reference values; SCAP: Spatial Capacity Working Memory Task; SWM BSE: spatial working memory between search errors; SWM strategy: spatial working memory strategy score; WISC-IV: The Wechsler Intelligence Scale for Children–Fourth Edition; WMI: The Working Memory Index; WNV-NL: The Spatial Span subtest of the Wechsler nonverbal scale of ability (Dutch version)

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