

Neuropsychological Processing Concerns Checklist-2: Differences Between Diagnostic Groups for Parent Raters

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NPCC-2 Subdomain Scores	Number of Items	Mean SLD Ratings <i>n</i> = 183	Mean ADD/ADHD Ratings <i>n</i> = 115	Mean Autism Ratings <i>n</i> = 46	Mean Neuro/Medical Ratings <i>n</i> = 106	Mean SED Ratings <i>n</i> = 31	ANOVA <i>F, p</i>	Eta Squared
Sensorimotor Functions								
Motor Functioning	8	3.39 (3.13)	2.95 (2.99)	4.80 (3.95)	4.33 (3.13)	2.58 (3.13)	5.22***	.042
Tactile/Olfaction Functioning	4	1.45 (1.58)	1.34 (1.63)	2.09 (1.76)	1.91 (1.87)	1.39 (1.45)	3.06*	.025
Visual Functioning	3	.92 (.98)	.87 (1.02)	.65 (.85)	1.16 (1.00)	.87 (1.18)	2.46*	.020
Auditory Functioning	4	1.58 (1.63)	1.47 (1.54)	2.22 (1.60)	2.01 (1.73)	1.74 (1.48)	2.94*	.024
Visual-Spatial Functioning	5	2.98 (2.46)	2.57 (1.97)	3.09 (2.39)	3.24 (2.07)	2.71 (2.53)	1.34, ns	.011
Attention Functions								
Focused/ Selective Attention	3	3.92 (2.02)	4.60 (1.65)	4.02 (2.10)	4.09 (1.95)	4.06 (2.19)	2.26, ns	.019
Sustained Attention	3	3.52 (2.11)	4.26 (2.11)	3.35 (1.94)	3.91 (2.08)	3.84 (2.38)	2.68*	.023
Shifting Attention	3	2.55 (1.84)	3.27 (1.82)	3.50 (2.29)	3.18 (2.09)	3.74 (1.98)	5.11***	.041
Divided Attention	3	3.51 (2.29)	4.31 (2.19)	4.04 (2.33)	3.82 (2.14)	4.03 (2.12)	2.47*	.020
Attentional Capacity	3	4.34 (2.26)	4.94 (2.24)	4.46 (2.39)	4.76 (2.13)	4.68 (2.50)	1.46, ns	.012
Language Functions								
Articulation	3	2.21 (1.91)	1.68 (1.82)	1.89 (2.23)	2.13 (1.66)	1.48 (1.80)	2.21, ns	.018
Phonological Processing	3	1.56 (1.51)	1.41 (1.49)	1.93 (1.86)	1.92 (1.54)	.90 (1.33)	3.71**	.030
Receptive Language	2	1.48 (1.16)	1.61 (1.12)	1.76 (1.30)	1.78 (1.10)	1.52 (1.44)	1.37, ns	.011
Expressive Language	4	2.23 (1.83)	2.20 (2.01)	2.37 (1.79)	2.67 (1.89)	2.10 (2.07)	1.22, ns	.010
Learning and Memory Functions								
Short-Term Memory	5	5.67 (3.10)	6.14 (2.97)	5.13 (3.02)	5.98 (2.74)	5.19 (3.19)	1.43, ns	.012
Active Working Memory	4	4.31 (2.94)	4.39 (2.39)	3.80 (2.65)	4. 85 (2.69)	4.48 (2.98)	1.32, ns	.011
Long-Term Memory	6	6.40 (3.46)	7.10 (3.33)	6.33 (3.45)	7.24 (3.23)	7.39 (3.83)	1.75, ns	.015
General Learning	3	2.79 (1.72)	2.81 (2.00)	2.30 (1.40)	3.20 (1.99)	2.81 (2.42)	1.98, ns	.106

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Executive Functions								
Problem Solving, Planning, and Organizing	7	7.62 (3.66)	8.87 (3.73)	8.30 (3.46)	8.89 (3.84)	9.65 (4.05)	3.78**	.031
Behavioral/ Emotional Regulation	8	7.75 (4.16)	9.85 (5.06)	8.20 (4.36)	8.18 (4.37)	9.71 (5.43)	4.55**	.037
Speed and Efficiency of Cognitive Processing								
Speed and Efficiency of Cognitive Processing	7	9.07 (4.09)	10.00 (4.27)	8.61 (4.42)	9.86 (4.29)	10.03 (5.25)	1.65, ns	.014
Reading Skills								
Attentional Functions	3	3.55 (1.98)	3.86 (2.17)	3.78 (2.17)	4.06 (2.04)	3.81 (2.40)	1.09, ns	.009
Phonological Processing and Fluency	3	3.81 (2.38)	3.64 (2.33)	3.50 (2.34)	3.58 (2.14)	4.00 (2.73)	.41, ns	.003
Comprehension and Memory	2	2.51 (1.54)	2.43 (1.54)	2.37 (1.51)	2.81 (1.56)	2.58 (1.63)	1.12, ns	.009
Attitudinal Issues	3	3.48 (2.32)	3.52 (2.13)	3.15 (2.43)	3.29 (2.07)	3.68 (2.83)	.43, ns	.004
Writing Skills								
Graphomotor Output	9	7.99 (4.29)	7.96 (4.43)	7.52 (4.02)	8.38 (4.30)	7.87 (4.34)	.36, ns	.003
Spatial Production	2	2.26 (1.56)	2.23 (1.56)	1.98 (1.39)	2.21 (1.59)	2.29 (1.83)	.32, ns	.003
Expressive Language	7	8.63 (4.33)	8.62 (4.62)	8.39 (4.59)	9.61 (4.58)	9.62 (5.72)	1.25, ns	.010
Attitudinal Issues	2	2.31 (1.52)	2.44 (1.62)	2.17 (1.50)	2.19 (1.42)	2.61 (1.48)	.78, ns	.007
Mathematics Skills								
Attentional Functions	2	2.45 (1.53)	2.55 (1.48)	2.35 (1.46)	2.50 (1.40)	2.26 (1.37)	.33, ns	.003
Computational Knowledge	2	2.52 (1.73)	2.55 (1.66)	2.52 (1.53)	2.69 (1.65)	2.32 (1.82)	.34, ns	.003
Mathematic Reasoning/ Comprehension	2	2.39 (1.44)	2.42 (1.38)	2.11 (1.20)	2.50 (1.46)	2.45 (1.67)	.64, ns	.005
Attitudinal Issues	2	2.03 (1.56)	1.86 (1.44)	2.07 (1.42)	2.23 (1.54)	2.06 (1.91)	.79, ns	.007

Conclusions:

- The parent ratings of academic deficits do not vary between diagnostic groups. Academic deficits are the common principal reasons for referral for educational evaluation.
- The parent ratings of sensorimotor deficits varied the most between diagnostic groups. The general pattern of parental concerns across sensorimotor functions followed this pattern from most severe to least severe: Autism (AU), Neurologically/Medically Impaired (NMI), Specific Learning Disabled (SLD), ADD/ADHD, and Serious Emotionally Disturbed (SED). This is consistent with what is known about sensorimotor deficits in neurodevelopmental disorders.
- The parent ratings of shifting attention varied significantly between diagnostic groups, with the SED and AU groups having the highest ratings and SLD having the lowest rating.
- The parent ratings of phonological processing varied significantly between diagnostic groups. The AU and NMI groups had the highest ratings.
- The parent rating for cognitive and behavioral executive functions varied significantly between diagnostic groups. The SLD group had the lowest ratings, while the other groups had high ratings.
- The NPCC-2 Parent Version should only be used to help clarify referral questions and select assessment tools to verify the areas of concern. The scale should not be used for differential diagnosis.