

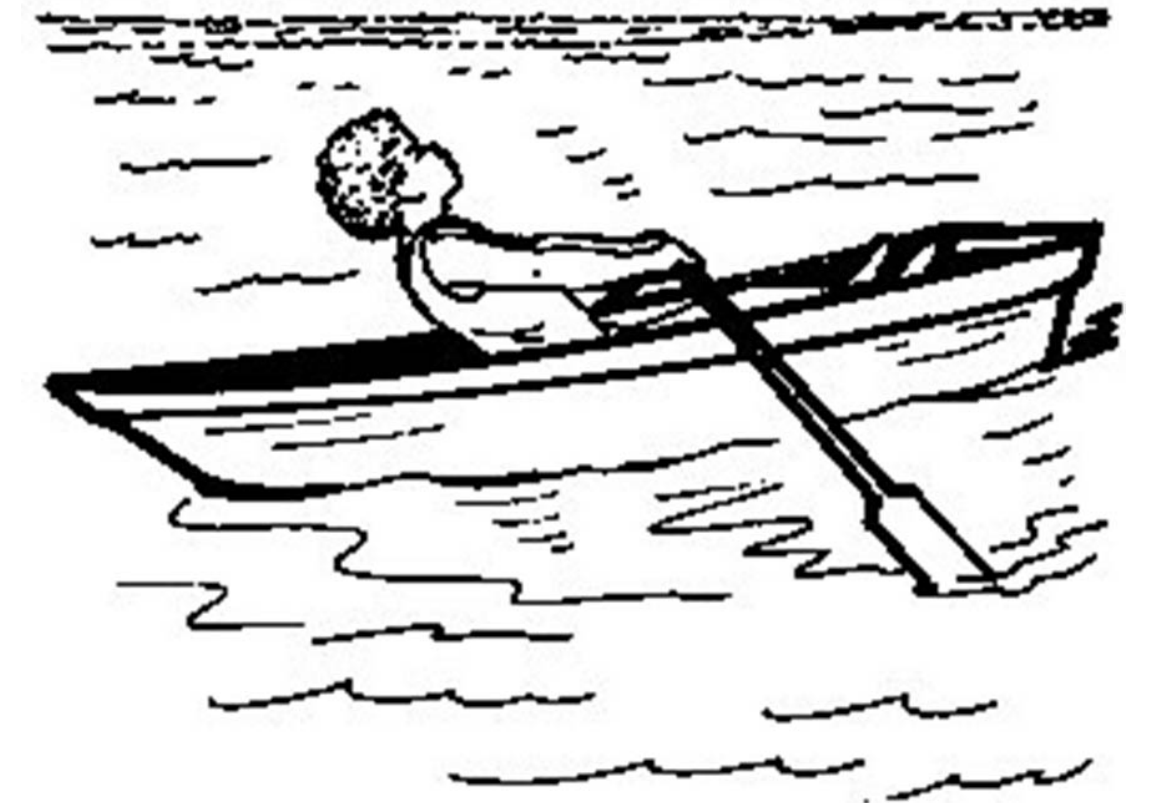
The performance of a group of MS patients at different stages of the disease is compared with a group of healthy participants. Our hypothesis is that patients with Multiple Sclerosis could have deficits in action naming tasks, similar to the ones found in other pathologies with frontal dysfunction (PD, PSP, FTD).

Groups	Age	Education	Disease duration	EDSS
<b>CG</b> (30 F, 6 M)	M=41.58 SD=9.62	M=14.41 SD=3.86		
<b>ERR</b> (11F, 1M)	M=37.00 SD=10.50	M=14.16 SD=3.48	M=3.22 SD=2.49	M=0.95 SD=0.62
<b>LRR</b> (11F, 3M)	M=42.92 SD=8.42	M=13.43 SD=3.80	M=11.71 SD=3.71	M=1.25 SD=0.80
<b>SP</b> (8 F, 2 M)	M=44.66 SD=7.44	M=13.89 SD=2.63	M=15.6 SD=4.37	M=8.55 SD=5.63

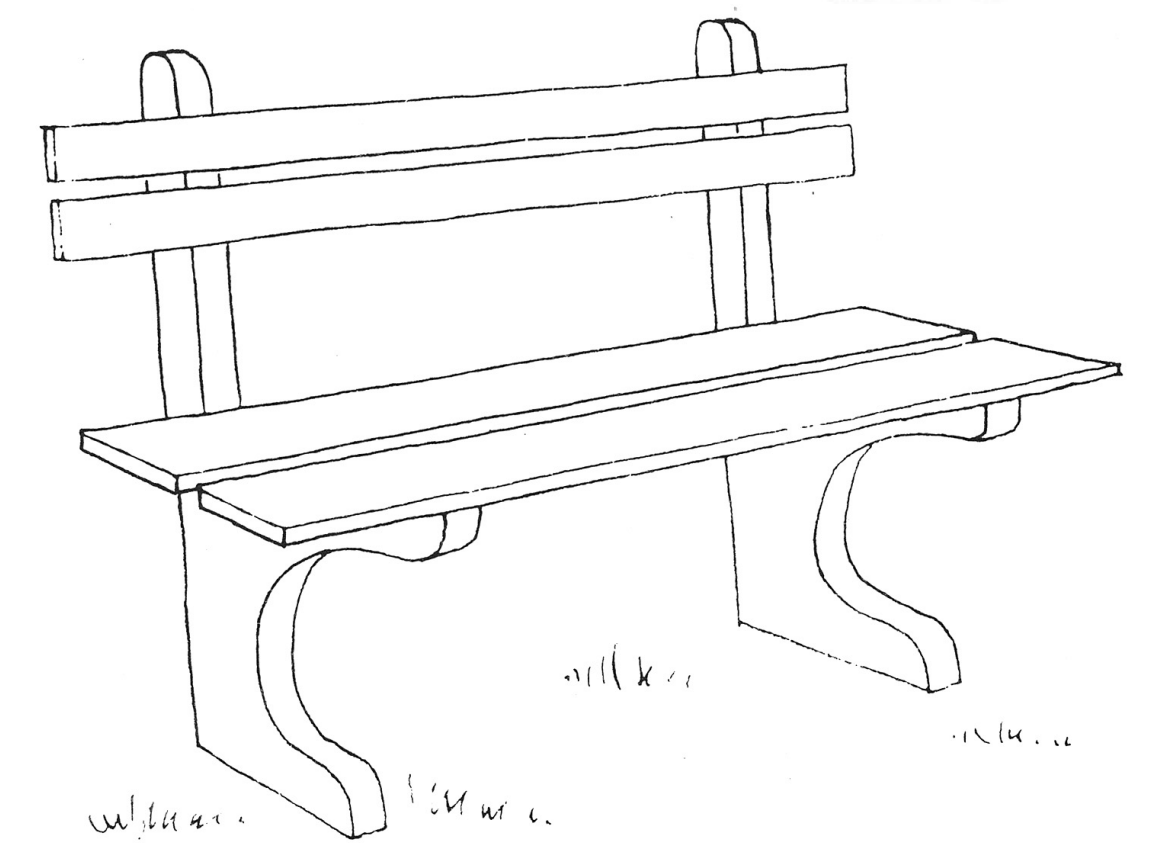
Table 1: Groups' description.

CG: control group; ERR: Early Relapsing-Remitting; LRR: Late Relapsing-Remitting; SP: Secondary Progressive

75 Figures of Actions gained from the "International Picture Naming Project" (IPNP)

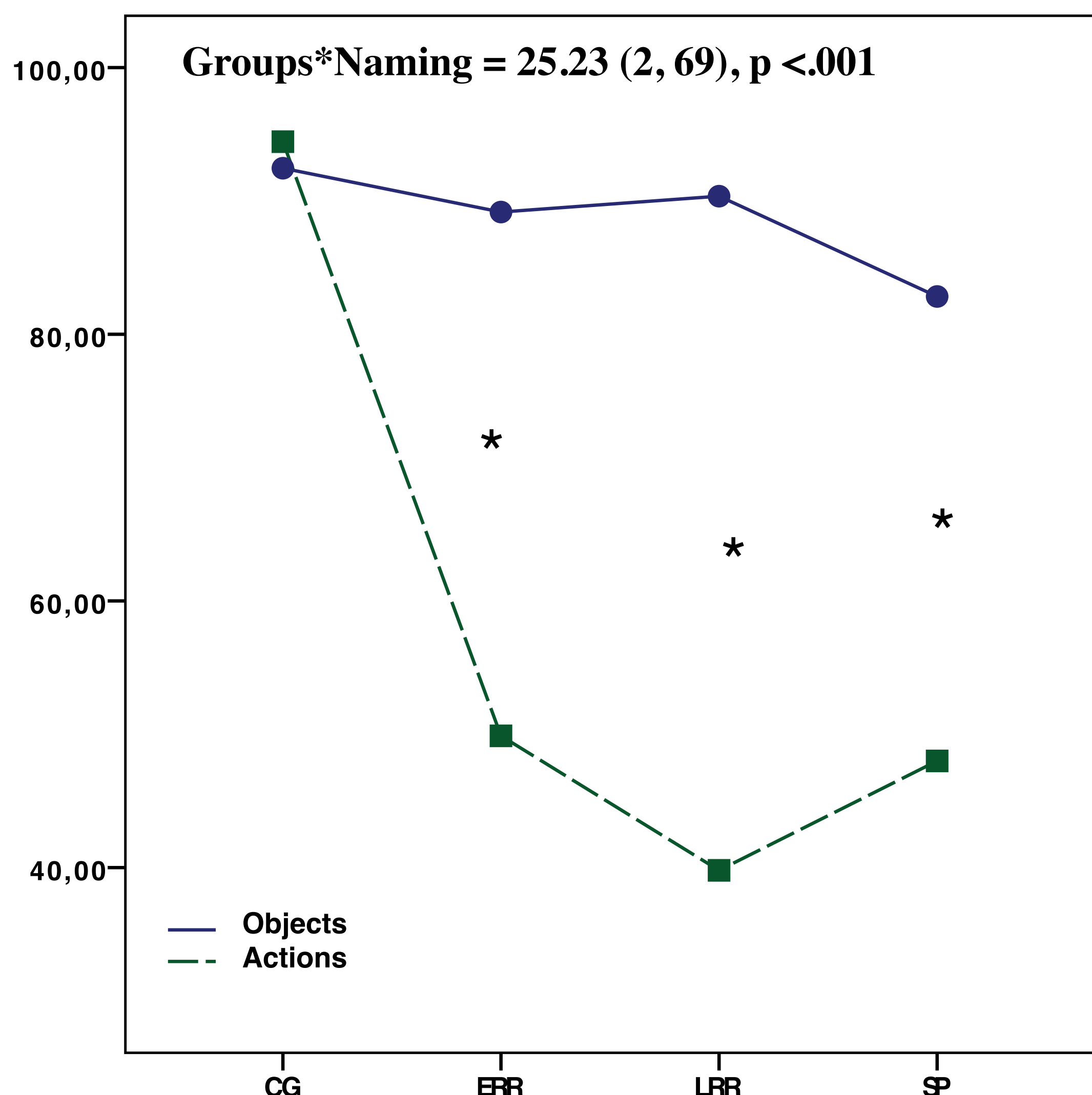


60 Figures of objects from the Boston Naming Test



	Brief Repeatable Battery	Scores	cut-off
		Mean	St.Dev.
Verbal Memory	SRT-LTS	45.15	9.3
	SRT-CLTR	34.47	5.98
	SRT-D	8.82	1.33
Visual Memory	SPART	20.41	4.92
	SPART-D	7.35	1.61
Processing Speed	SDMT	47.29	7.24
Auditory Attention	PASAT 3	37.41	12.71
	PASAT 2	30.29	11.64
Verbal Fluency	WLG	26.88	6.19

Table 2. Patient's Scores at Brief Repeatable Battery



## Results

- Findings suggest that the task is efficient in identifying patients, even at an early stage of disease, but it is not able to distinguish between Relapsing-Remitting and Secondary Progressive phenotypes.
- The analysis showed a significant effect of EDSS  $F(1,67)=8.25, p<.05$  and a significant interaction between EDSS and Naming  $F(1,67)=15.15, p<.001$ .
- Findings are in line with literature on action naming in patients with frontal areas dysfunctions.
- It is possible to hypothesize an involvement of frontal per-motor and motor areas since the early stages of Multiple Sclerosis