

Supplementary Table 1. Cognitive Function Test Scores by Treatment Assignment

Variable	Baseline	Follow-up	Change	P-value
Visual Spatial Tests				
Route Learning Test (immediate recall)				
Placebo	0.38 ± 0.17 (7)	0.41 ± 0.13 (7)	0.03 ± 0.23 (7)	Ref
3 mg	0.42 ± 0.07 (7)	0.50 ± 0.12 (7)	0.08 ± 0.15 (7)	0.31
6.25 mg	0.56 ± 0.08 (8)	0.58 ± 0.18 (8)	0.01 ± 0.15 (8)	0.19
12.5 mg	0.403 ± 0.134 (7)	0.410 ± 0.172 (7)	0.006 ± 0.119 (7)	0.80
25 mg	0.33 ± 0.16 (9)	0.43 ± 0.20 (9)	0.10 ± 0.23 (9)	0.70
Route Learning Test (delayed recall)				
Placebo	0.39 ± 0.15 (7)	0.47 ± 0.22 (7)	0.08 ± 0.28 (7)	Ref
3 mg	0.50 ± 0.10 (7)	0.47 ± 0.17 (7)	-0.04 ± 0.23 (7)	0.96
6.25 mg	0.53 ± 0.18 (8)	0.67 ± 0.14 (8)	0.14 ± 0.22 (8)	0.15
12.5 mg	0.52 ± 0.18 (7)	0.49 ± 0.16 (7)	-0.04 ± 0.17 (7)	0.73
25 mg	0.39 ± 0.21 (9)	0.41 ± 0.23 (9)	0.03 ± 0.23 (9)	0.85
Complex Figure (immediate recall)				
Placebo	0.73 ± 0.11 (8)	0.69 ± 0.13 (8)	-0.04 ± 0.12 (8)	Ref
3 mg	0.62 ± 0.12 (8)	0.68 ± 0.15 (8)	0.07 ± 0.14 (8)	0.23
6.25 mg	0.61 ± 0.16 (9)	0.71 ± 0.11 (9)	0.10 ± 0.13 (9)	0.10
12.5 mg	0.60 ± 0.10 (10)	0.66 ± 0.12 (10)	0.06 ± 0.11 (10)	0.16
25 mg	0.58 ± 0.23 (8)	0.66 ± 0.23 (8)	0.08 ± 0.09 (8)	0.08

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Complex Figure (delayed recall)				
Placebo	0.63 ± 0.10 (8)	0.66 ± 0.17 (8)	0.04 ± 0.18 (8)	Ref
3 mg	0.58 ± 0.16 (8)	0.63 ± 0.20 (8)	0.05 ± 0.13 (8)	0.59
6.25 mg	0.56 ± 0.13 (9)	0.67 ± 0.14 (9)	0.11 ± 0.09 (9)	0.51
12.5 mg	0.56 ± 0.12 (10)	0.66 ± 0.15 (10)	0.10 ± 0.13 (10)	0.31
25 mg	0.45 ± 0.30 (8)	0.62 ± 0.24 (8)	0.17 ± 0.18 (8)	0.20
Verbal Memory Tests				
Paragraph (immediate recall)				
Placebo	0.520 ± 0.200 (8)	0.521 ± 0.142 (8)	0.001 ± 0.100 (8)	Ref
3 mg	0.39 ± 0.12 (8)	0.41 ± 0.11 (8)	0.03 ± 0.07 (8)	0.99
6.25 mg	0.36 ± 0.19 (9)	0.43 ± 0.15 (9)	0.07 ± 0.08 (9)	0.68
12.5 mg	0.31 ± 0.12 (10)	0.39 ± 0.11 (10)	0.08 ± 0.08 (10)	0.75
25 mg	0.40 ± 0.18 (9)	0.44 ± 0.24 (9)	0.04 ± 0.15 (9)	0.81
Paragraph (delayed recall)				
Placebo	0.42 ± 0.19 (8)	0.49 ± 0.11 (8)	0.07 ± 0.10 (8)	Ref
3 mg	0.26 ± 0.11 (8)	0.34 ± 0.12 (8)	0.08 ± 0.08 (8)	0.65
6.25 mg	0.28 ± 0.19 (9)	0.39 ± 0.19 (9)	0.10 ± 0.09 (9)	0.39
12.5 mg	0.27 ± 0.16 (10)	0.32 ± 0.13 (10)	0.05 ± 0.16 (10)	0.15
25 mg	0.31 ± 0.18 (9)	0.39 ± 0.23 (9)	0.09 ± 0.12 (9)	0.94
Buschke (immediate: Total Correct)				
Placebo	0.79 ± 0.06 (8)	0.86 ± 0.10 (8)	0.08 ± 0.10 (8)	Ref

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Variable	Baseline	Follow-up	Change	P-value
3 mg	0.64 ± 0.11 (9)	0.79 ± 0.10 (9)	0.16 ± 0.10 (9)	0.40
6.25 mg	0.66 ± 0.19 (9)	0.73 ± 0.17 (9)	0.07 ± 0.13 (9)	0.11
12.5 mg	0.66 ± 0.14 (10)	0.83 ± 0.10 (10)	0.17 ± 0.13 (10)	0.58
25 mg	0.74 ± 0.16 (9)	0.79 ± 0.17 (9)	0.06 ± 0.04 (9)	0.93
Buschke (delayed: Total Correct)				
Placebo	0.89 ± 0.09 (7)	0.95 ± 0.07 (7)	0.06 ± 0.09 (7)	Ref
3 mg	0.66 ± 0.30 (9)	0.81 ± 0.18 (9)	0.16 ± 0.26 (9)	0.84
6.25 mg	0.73 ± 0.25 (9)	0.84 ± 0.18 (9)	0.11 ± 0.17 (9)	0.75
12.5 mg	0.71 ± 0.18 (10)	0.89 ± 0.10 (10)	0.18 ± 0.19 (10)	0.89
25 mg	0.759 ± 0.234 (9)	0.750 ± 0.289 (9)	-0.009 ± 0.114 (9)	0.32
Verbal Fluency Tests				
Verbal Fluency (I)				
Placebo	8.6 ± 3.5 (8)	10.0 ± 6.6 (8)	1.4 ± 6.1 (8)	Ref
3 mg	6.63 ± 4.03 (8)	6.63 ± 2.97 (8)	0.00 ± 2.56 (8)	0.65
6.25 mg	7.8 ± 3.1 (9)	9.4 ± 4.3 (9)	1.7 ± 3.5 (9)	0.69
12.5 mg	5.60 ± 3.84 (10)	6.00 ± 3.30 (10)	0.40 ± 2.76 (10)	0.92
25 mg	10.89 ± 5.13 (9)	11.11 ± 4.34 (9)	0.22 ± 2.82 (9)	0.98
Verbal Fluency (K)				
Placebo	5.9 ± 2.0 (8)	8.0 ± 5.2 (8)	2.1 ± 5.1 (8)	Ref
3 mg	4.88 ± 3.09 (8)	4.63 ± 1.77 (8)	-0.25 ± 2.25 (8)	0.12
6.25 mg	5.78 ± 3.07 (9)	6.11 ± 2.85 (9)	0.33 ± 3.67 (9)	0.45

Supplementary Table 1. Cognitive Function Test Scores by Treatment Assignment

Variable	Baseline	Follow-up	Change	P-value
12.5 mg	5.30 ± 2.67 (10)	5.50 ± 2.88 (10)	0.20 ± 3.88 (10)	0.89
25 mg	6.8 ± 3.2 (9)	5.1 ± 2.4 (9)	-1.7 ± 3.0 (9)	0.13
Verbal Fluency (P)				
Placebo	13.4 ± 2.7 (8)	15.5 ± 2.1 (8)	2.1 ± 2.7 (8)	Ref
3 mg	13.13 ± 6.15 (8)	13.00 ± 5.76 (8)	-0.13 ± 1.55 (8)	0.51
6.25 mg	13.1 ± 6.4 (9)	14.7 ± 7.0 (9)	1.6 ± 5.1 (9)	0.99
12.5 mg	11.50 ± 5.06 (10)	11.80 ± 5.03 (10)	0.30 ± 3.65 (10)	0.26
25 mg	15.9 ± 4.6 (9)	14.1 ± 4.8 (9)	-1.8 ± 4.2 (9)	0.33
Categorical Fluency				
Placebo	20.88 ± 5.51 (8)	21.88 ± 7.92 (8)	1.00 ± 8.42 (8)	Ref
3 mg	17.8 ± 6.7 (8)	20.5 ± 5.1 (8)	2.8 ± 2.4 (8)	0.60
6.25 mg	15.4 ± 5.7 (9)	16.7 ± 6.3 (9)	1.2 ± 3.6 (9)	0.99
12.5 mg	17.7 ± 4.9 (10)	19.1 ± 3.4 (10)	1.4 ± 3.8 (10)	0.89
25 mg	20.8 ± 6.4 (9)	18.9 ± 4.8 (9)	-1.9 ± 4.6 (9)	0.40
Attention and Executive Function Tests				
VSLT I (immediate)				
Placebo	4.0 ± 1.6 (8)	5.2 ± 1.9 (8)	1.2 ± 1.3 (8)	Ref
3 mg	2.6 ± 1.1 (9)	4.5 ± 2.1 (9)	1.9 ± 1.5 (9)	0.21
6.25 mg	3.78 ± 1.83 (9)	4.38 ± 1.38 (9)	0.60 ± 1.37 (9)	0.35
12.5 mg	3.2 ± 1.7 (10)	4.9 ± 2.1 (10)	1.6 ± 1.8 (10)	0.35
25 mg	3.84 ± 2.58 (9)	4.67 ± 2.22 (9)	0.82 ± 1.11 (9)	0.69

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Variable	Baseline	Follow-up	Change	P-value
VSLT II (delayed)				
Placebo	4.5 ± 2.5 (8)	6.0 ± 1.8 (8)	1.5 ± 2.4 (8)	Ref
3 mg	4.33 ± 2.06 (9)	4.44 ± 1.88 (9)	0.11 ± 1.69 (9)	0.08
6.25 mg	5.22 ± 2.17 (9)	5.78 ± 1.09 (9)	0.56 ± 1.33 (9)	0.34
12.5 mg	4.30 ± 2.11 (10)	5.30 ± 1.89 (10)	1.00 ± 1.76 (10)	0.96
25 mg	4.33 ± 2.83 (9)	5.11 ± 2.47 (9)	0.78 ± 1.09 (9)	0.39
Letter-Number Sequencing				
Placebo	0.45 ± 0.14 (8)	0.51 ± 0.12 (8)	0.06 ± 0.10 (8)	Ref
3 mg	0.39 ± 0.15 (8)	0.42 ± 0.15 (8)	0.03 ± 0.16 (8)	0.17
6.25 mg	0.47 ± 0.09 (9)	0.47 ± 0.11 (9)	0.00 ± 0.06 (9)	0.45
12.5 mg	0.44 ± 0.08 (10)	0.41 ± 0.06 (10)	-0.03 ± 0.09 (10)	0.02
25 mg	0.43 ± 0.20 (9)	0.48 ± 0.14 (9)	0.05 ± 0.11 (9)	0.44
Stroop Interference Test				
Placebo	59.1 ± 19.7 (8)	49.8 ± 10.2 (8)	-9.4 ± 11.1 (8)	Ref
3 mg	64.3 ± 17.9 (9)	55.0 ± 14.3 (9)	-9.3 ± 14.3 (9)	0.92
6.25 mg	54.9 ± 9.1 (10)	53.4 ± 8.7 (10)	-1.5 ± 7.6 (10)	0.61
12.5 mg	52.8 ± 5.0 (10)	46.8 ± 11.7 (10)	-6.0 ± 10.1 (10)	0.87
25 mg	57.4 ± 21.6 (9)	53.2 ± 19.7 (9)	-4.2 ± 11.9 (9)	0.60
Trails B				
Placebo	107.7 ± 62.8 (7)	103.7 ± 53.1 (7)	-4.0 ± 53.4 (7)	Ref
3 mg	141 ± 86 (8)	130 ± 90 (8)	-11 ± 38 (8)	0.71

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Variable	Baseline	Follow-up	Change	P-value
6.25 mg	118 ± 42 (7)	101 ± 38 (7)	-17 ± 39 (7)	0.46
12.5 mg	102 ± 48 (10)	87 ± 53 (10)	-15 ± 49 (10)	0.08
25 mg	107.5 ± 86.9 (8)	108.8 ± 81.4 (8)	1.3 ± 40.6 (8)	0.89
Mazes				
Placebo	102 ± 23 (6)	125 ± 77 (6)	23 ± 63 (6)	Ref
3 mg	184 ± 134 (8)	153 ± 102 (8)	-32 ± 108 (8)	0.23
6.25 mg	177 ± 88 (9)	163 ± 88 (9)	-15 ± 85 (9)	0.67
12.5 mg	131 ± 98 (10)	104 ± 50 (10)	-27 ± 64 (10)	0.20
25 mg	144 ± 75 (9)	108 ± 78 (9)	-36 ± 91 (9)	0.25

Data represent mean ± SD (N) for baseline, follow-up and change in cognitive function scores. P-value displayed is for the ANCOVA model predicting change in cognitive scores by testosterone dose group compared to placebo adjusted for baseline scores, age and education.

Route Learning score reflects baseline score out of 16 possible correct items

Complex Figure score reflects baseline score out of 9 possible correct items

Paragraph Recall score reflects baseline score out of 44 possible correct items

Buschke immediate and delay scores reflects baseline score out of 60 and 12 possible correct items, respectively

Letter-Number Sequencing score reflects baseline score out of 21 possible correct items