Online Supplementary Materials

Working Memory Training for Adolescents with Cannabis Use Disorders:

A Randomized Controlled Trial

Effect of Number of Training Sessions

In order to address the possibility that including participants who received relatively fewer training sessions was interfering with our ability to detect an effect of training, we report β values and significance for β Group by Time interaction term for all outcomes with only individuals who completed 20 or more sessions ($n = 25$) and all completed participants ($n = 37$) in Table 1.1. This permits the comparison of the differences in β that would indicate a stronger effect for those who received more training sessions relative to the full sample. In the following table, β Group by Time represents the difference in change over time between Experimental and Control Groups. As a whole, these data suggest that excluding individuals receiving relatively fewer training sessions (Table 1.1, right columns) does not reliably change the magnitude of the training effects reported as part of the main analysis.

Table 1.1

Parameter Estimates for β Group by Time (β, Standard Error, p) for the Full Sample and Individuals with 20+ Sessions

Measure	Full Sample (*n* = 37) β (Standard Error)	*p*	20+ Sessions (*n* = 25) β (Standard Error)	*p*
WAIS-IV/ WISC-IV				
Working Memory Index	0.32 (3.31)	.92	-0.50 (4.75)	.92
Working Memory Index Percentile	2.96 (5.42)	.58	0.83 (7.54)	.92
Digit Span Forward (Raw Score)	0.04 (0.33)	.92	0.37 (0.43)	.40
Digit Span Backward (Raw Score)	-0.21 (0.35)	.54	-0.17 (0.47)	.72
Digit Span (Scaled Score)	0.11(0.84)	.90	0.87 (0.92)	.34
Visuo-spatial Working Memory Task				
Proportion Correct				
3 dots	-.005 (.07)	.94	.08 (.09)	.38
4 dots	.04 (.10)	.72	.11 (.13)	.38
6 dots	.14 (.10)	.18	.18 (.13)	.16
Paced Serial Addition Test				
Proportion Correct				
3.2 s	-.01 (.05)	.78	.03 (.06)	.54
2.8 s	.01 (.07)	.86	-.01 (.08)	.90
2.4 s	.05 (.07)	.46	-.01 (.08)	.92
2.0 s	-.02 (.07)	.76	-.07 (.08)	.36
Proportion Dyads				
3.2 s	.06 (.04)	.16	.08 (.05)	.10
2.8 s	.01 (.06)	.84	.02 (.07)	.76
2.4 s	.02 (.06)	.68	-.01 (.07)	.92
2.0 s	-.05 (.06)	.38	-.05 (.07)	.50
Reaction Time on Correct Trials				
3.2 s	105.54 (104.89)	.32	158.48 (131.28)	.22
2.8 s	-79.62 (148.33)	.60	-61.58 (185.66)	.74
2.4 s	-16.06 (148.33)	.92	-102.39 (185.66)	.58
2.0 s	-197.15 (148.33)	.18	-349.22 (185.66)	.06

Table 1.1
(Continued)

Measure	Full Sample (*n* = 37)			20+ Sessions (*n* = 25)		
	β (Standard Error)		*p*	β (Standard Error)		*p*
Continuous Performance Test						
Hit Rate	.05 (.04)		.28	.03 (.04)		.44
False Alarms	-.10 (.05)		.06	-.06 (.07)		.38
d'	.66 (.26)		.02*	.53 (.27)		.04*
Response Bias	-.07 (.16)		.64	-.17 (.18)		.34
Reaction Time on Correct Trials	56.40 (23.52)		.02*	8.69 (23.90)		.72
Stroop						
Proportion Correct						
Classic Color-Word	.02 (.06)		.68	.0000 (.07)		1.00
String	.02 (.06)		.68	.01 (.07)		.94
Cannabis	-.02 (.04)		.60	.04 (.05)		.42
Neutral Word	-.002 (.06)		.96	.02 (.07)		.74
Reaction Time on Correct Trials						
Classic Color-Word	60.00 (86.19)		.48	126.12 (91.30)		.16
String	22.98 (86.19)		.78	62.36 (91.30)		.50
Cannabis	-56.17 (60.95)		.36	-46.74 (64.56)		.46
Neutral Word	108.79 (86.19)		.20	75.73 (91.30)		.40
Quick Discounting Operant Task						
Area Under the Curve	.004 (.07)		.96	.01 (.10)		.88
Past 30 Days Timeline Follow-Back						
Cannabis						
Days of cannabis use	-3.26 (3.46)		.34	-7.20 (3.74)		.06
Total blunts/joints smoked	-79.42 (49.20)		.10	-95.17 (60.97)		.12
Tobacco						
Days of cigarette use	.79 (3.06)		.80	2.50 (4.26)		.56
Total cigarettes smoked	12.99 (30.43)		.66	-8.02 (16.84)		.64
Alcohol						
Days of alcohol use	.96 (.52)		.06	.93 (.76)		.22
Total alcoholic drinks consumed	4.96 (3.31)		.14	3.79 (4.68)		.42

Table 1.1
(Continued)

Measure	Full Sample (*n* = 37) β (Standard Error)	*p*	20+ Sessions (*n* = 25) β (Standard Error)	*p*
GAIN-I Lite				
Days Bothered by Psychological Problems	1.18 (3.01)	.70	-2.90 (3.02)	.34
Days Impaired by Psychological Problems	-.44 (2.30)	.84	-2.53 (2.95)	.38
Days with Behavioral Control Problems	3.95 (3.21)	.22	9.57 (3.54)	.007*
Days of Criminal Activity (Besides Drug Use)	3.57 (1.89)	.06	5.97 (2.70)	.02*
Instances of Unprotected Sex	-1.21 (1.12)	.28	-.57 (.49)	.24
Proportion of Sex that was Protected	.21 (.16)	.20	.24 (.19)	.20
Difficulties in Emotion Regulation Scale	10.15 (3.69)	.006*	11.60 (5.07)	.02*
Gray Oral Reading Test				
Fluency	.31 (.25)	.22	.07 (.30)	.82
Comprehension	.31 (.41)	.46	.33 (.49)	.50
Therapeutic Alliance	-3.91 (3.54)	.26	-3.51 (4.35)	.42

Note. Parameter estimates and standard error (in parentheses) from mixed effects regression model described in text for treatment effects on outcomes. Values are listed for the full sample of those who completed the study (*n* = 37; who completed between 10-25 training sessions) and an analysis only including those who completed 20 or more training sessions (*n* = 25). An asterisk (*) indicates that there was a significant difference (*p* < .05) in change over time as a function of Group (Experimental or Control) for that outcome. WAIS-IV = Wechsler Adult Intelligence Scale IV, WISC-IV =Wechsler Intelligence Scale for Children IV, GAIN-I Lite = Global Appraisal of Individual Needs-Initial Lite.