

## *Supplementary Material*

### **Art therapy as a comprehensive complementary treatment for Parkinson's disease**

Tom Ettinger<sup>1</sup>, Marygrace Berberian<sup>1</sup>, Ikuko Acosta<sup>1</sup>, Alberto Cucca<sup>2, 7</sup>, Andrew Feigin<sup>2</sup>, Danilo Genovese<sup>2</sup>, Travis Pollen<sup>5</sup>, Julianne Rieders<sup>2</sup>, Rohita Kilachand<sup>1</sup>, Clara Gomez<sup>1</sup>, Girija Kaimal<sup>4</sup>, Milton Biagioni<sup>2</sup>, Alessandro Di Rocco<sup>6</sup>, Felice M. Ghilardi<sup>2</sup>, and John-Ross Rizzo<sup>8</sup>

\* **Correspondence:** Tom Ettinger tomettinger@nyu.edu

#### **Supplementary Figures and Tables**

##### **Tables**

<b>Category</b>	<b>Pre-Treatment HTP-PDS (mean ± SD or median [IQR])</b>	<b>Post-Treatment (mean ± SD or median [IQR])</b>	<b>Difference between Pre and Post Treatment Mean or Median Scores</b>	<b>P (1-tailed)</b>	<b>Effect size</b>
Motor Control	3.0 (2.0)	4.0 (1.8)	+1.0	<0.001*	r = 0.70
Visual/Spatial Functioning	3.0 (0.8)	3.5 (1.0)	+0.5	<0.001*	r = 0.61
Cognition: Logic/Thought	4.0 (2.5)	5.0 (1.5)	+1.0	.011*	r = 0.38
Motivation	3.0 ± 1.0	4.1 ± 0.8	+1.1	<0.001*	d = 0.93
Affect/mood	2.5 (1.8)	4.0 (0.8)	+1.5	<0.001*	r = 0.69
Self	2.6 ± 0.9	3.5 ± 0.8	+0.9	<0.001*	d = 0.73

Interpersonal	2.6 ± 1.0	3.4 ± 1.0	+0.8	<0.001*	d = 0.61
Creativity	3.0 (1.8)	4.0 (1.5)	+1.0	<0.001*	r = 0.73
Global Assessment of Functioning	3.0 (2.0)	4.0 (0.5)	+1.0	<0.001*	r = 0.61

\*P < 0.05

Abbreviations: SD, standard deviation; IQR, interquartile range

Table 1. Mean ± standard deviation or median (interquartile range) pre- and post-intervention scores from blind raters for N = 37 participants. All categories improved significantly from pre- to post-intervention with medium to large effect sizes.

Measurement	Baseline	Follow up
UPDRS_III_	31	26
NAVON_TotalErrors_	1	1
BECK Depression Inventory	10	5

Table 2. Pre/Post Clinical Findings for Participant L

	Pre- Intervention HTP-PDS	Post- Intervention HTP- PDS	Difference between Post and Pre Intervention Mean Blind Rater Scores
<b>Motor Control</b>	4	5	+1.0
<b>Visual/Spatial Functioning</b>	3	4	+1.0

<b>Cognition: Logic/Thought</b>	5	5	0.0
<b>Motivation</b>	4	5	+1
<b>Affect/Mood</b>	3.5	5	+1.5
<b>Self</b>	3	4	+1
<b>Interpersonal</b>	3	4	+1
<b>Creativity</b>	3	5	+2.0
<b>Global Assessment of Functioning</b>	3	5	+2.0

Table 3. Pre/Post Test Results for Participant L

<b>Measurement</b>	<b>Baseline</b>	<b>Follow up</b>
UPDRS_III	25	11
NAVON_Total Errors_	5	4
BECK DI	3	0

Table 4. Pre/Post Clinical Findings for Participant A

	<b>Pre- Intervention HTP-PDS</b>	<b>Post- Intervention HTP- PDS</b>	<b>Difference between Post and Pre Intervention Mean Blind Rater Scores</b>
<b>Motor Control</b>	2.5	4.00	+1.5

<b>Visual/Spatial Functioning</b>	2.5	4.0	+1.5
<b>Cognition: Logic/ Thought</b>	4.0	4.5	+0.5
<b>Motivation</b>	2.5	4.5	+2.0
<b>Affect/Mood</b>	3.5	4.5	+1.0
<b>Self</b>	2.5	4.5	+2.0
<b>Interpersonal</b>	3	4.5	+1.5
<b>Creativity</b>	2.5	4.5	+2.0
<b>Global Assessment of Functioning</b>	2.5	4.5	+2.0

Table 5. Pre/Post Clinical Findings for Participant A

**Supplementary Figures**

**Figures**



**Supplementary Figure 1.** HTP Pre-treatment drawing by Participant L



**Supplementary Figure 2.** HTP Post-treatment drawing by Participant L



**Supplementary Figure 3.** HTP Pre-treatment drawing by Participant A





**Supplementary Figure 4.** HTP Post-treatment drawing by Participant A





Supplementary Figure 5. HTP drawing by Participant A: One year after treatment (remote sessions)