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Efficiency of Computer Vision in Modulating Happiness: An Interventional Study

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Supplementary Table S1. Additional McNemar tests on the traditional group.
***p*-values for traditional group based on correct responses before and after intervention – Males.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.109	0.18	1	NA	NA	0.027*
MB	0.754	0.18	1	NA	NA	0.678
FW	0.625	0.219	0.125	NA	1	0.041*
FB	0.688	0.07	0.375	1	NA	0.035*
Total	0.2	0.001*	0.077	0.688	1	<0.001*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for traditional group based on correct responses before and after intervention – Females.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.804	1	0.625	NA	NA	0.458
MB	1	0.022*	1	NA	NA	0.061
FW	0.022*	0.227	1	NA	NA	0.016*
FB	0.064	1	NA	NA	NA	0.099
Total	0.018*	0.034*	0.774	1	NA	<0.001*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for traditional group based on correct responses before and after intervention – Medical Students.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.118	1	1	NA	NA	0.248
MB	0.791	0.004*	1	NA	NA	0.029*
FW	0.227	0.109	1	NA	NA	0.087
FB	0.267	0.25	NA	1	NA	0.041*
Total	0.013*	0.001*	1	1	NA	<0.001*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for traditional group based on correct responses before and after intervention – Engineering Students.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	1	0.453	0.5	NA	NA	0.263
MB	0.031*	0.388	1	1	NA	1
FW	0.031*	0.453	0.125	NA	1	0.004*
FB	0.146	1	1	1	NA	0.15
Total	0.392	0.09	0.118	1	0.219	0.006*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

Supplementary Table S2. Additional McNemar tests on the CV-assisted group.
***p*-values for CV-assisted group based on correct responses before and after intervention – Males.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.727	1	NA	NA	NA	0.791
MB	0.016*	0.125	1	0.625	NA	<0.001*
FW	0.508	0.774	1	NA	NA	0.856
FB	0.146	1	NA	NA	NA	0.541
Total	0.004*	0.728	1	1	1	0.035*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for CV-assisted group based on correct responses before and after intervention – Females.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.146	0.302	1	NA	NA	0.035*
MB	0.774	0.359	0.625	1	1	1
FW	0.453	1	NA	1	1	1
FB	0.454	1	1	NA	NA	0.265
Total	0.144	0.169	0.581	0.688	1	0.061

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for CV-assisted group based on correct responses before and after intervention – Medical Students.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.035*	0.424	1	NA	NA	0.035*
MB	0.791	0.424	0.5	1	NA	0.728
FW	0.508	0.549	1	NA	1	0.86
FB	0.167	0.508	1	NA	NA	0.05
Total	0.008*	0.059	0.424	1	1	0.011*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for CV-assisted group based on correct responses before and after intervention – Engineering Students.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	1	1	NA	NA	NA	0.791
MB	0.375	0.146	1	0.625	NA	0.008*
FW	0.453	0.227	NA	1	1	0.678
FB	0.508	0.727	1	NA	NA	1
Total	0.169	1	1	0.727	0.453	0.198

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

Supplementary Table S3. Additional paired t-tests on the CV-assisted group.
***p*-values for CV-assisted group based on reaction time before and after the intervention – Males.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.02*	0.003*	0.092	0.069	0.857	0.003*
MB	0.369	0.087	0.689	0.568	0.349	0.807
FW	NA	0.313	0.004*	0.998	0.636	0.084
FB	0.882	0.722	0.844	0.894	0.111	0.674
Total	0.457	0.003*	0.06	0.231	0.369	0.012*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for CV-assisted group based on reaction time before and after the intervention – Females.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.527	0.492	0.149	0.075	<0.001*	<0.001*
MB	0.91	0.165	0.23	0.097	0.08	0.08
FW	NA	0.084	0.063	0.242	0.032*	0.002*
FB	0.153	0.088	0.326	0.295	0.157	0.007*
Total	0.092	0.009*	0.029*	0.015*	<0.001*	<0.001*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for CV-assisted group based on reaction time before and after the intervention – Medical Students.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.109	0.023	0.246	0.041	<0.001*	<0.001*
MB	0.525	0.177	0.718	0.138	0.164	0.114
FW	NA	0.151	0.071	0.508	0.49	0.018*
FB	0.259	0.213	0.11	0.152	0.011	0.002*
Total	0.076	0.001*	0.048*	0.007*	0.002*	<0.001*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for CV-assisted group based on reaction time before and after the intervention – Engineering Students.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.054	0.106	0.05*	0.15	0.854	0.014*
MB	0.019*	0.05*	0.879	0.36	0.206	0.342
FW	NA	0.065	0.007*	0.587	0.014	0.011*
FB	0.957	0.274	0.263	0.42	0.595	0.796
Total	0.593	0.02*	0.036*	0.295	0.063	0.003*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

Supplementary Table S4. Additional paired t-tests on the traditional group.
***p*-values for traditional group based on reaction time before and after the intervention – Males.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.02*	0.519	0.048*	0.267	0.77	0.22
MB	0.596	0.446	0.693	0.876	0.819	0.823
FW	NA	0.382	0.048*	0.003*	0.48	0.004*
FB	0.596	0.033*	0.098	0.383	0.244	0.065
Total	0.811	0.059	0.131	0.048*	0.507	0.023*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for traditional group based on reaction time before and after the intervention – Females.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.417	0.757	0.043*	0.026*	0.826	0.035*
MB	0.664	0.647	0.598	0.488	0.006*	0.044*
FW	0.485	0.315	0.115	0.368	0.045*	0.016*
FB	0.707	0.245	0.099	0.18	0.009*	0.001*
Total	0.226	0.1	0.011*	0.006*	0.002*	<0.001*

Note: * - Significance at α = 0.05.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for traditional group based on reaction time before and after the intervention – Medical Students.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.673	0.845	0.057	0.106	0.55	0.076*
MB	0.236	0.418	0.441	0.392	0.006*	0.315
FW	NA	0.055	0.558	0.127	0.019*	0.013*
FB	0.204	0.454	0.051	0.069	<0.001*	0.016*
Total	0.192	0.102	0.451	0.012*	<0.001*	0.003*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for traditional group based on reaction time before and after the intervention – Engineering Students.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.993	0.205	0.058	0.058	0.291	0.123
MB	0.106	0.767	0.31	0.874	0.249	0.127
FW	0.209	0.934	0.003*	0.006*	0.61	0.012*
FB	0.323	0.013*	0.146	0.746	0.885	0.034
Total	0.045*	0.027*	0.036*	0.059	0.664	0.003*

Note: * - Significance at α = 0.05.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

Supplementary Table S5. Additional Chi-square/Fisher Exact tests between CV-assisted and traditional groups (post-intervention).
***p*-values for tests between CV-assisted and traditional groups based on correct responses (post-intervention) – Males.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.338	0.390	0.211	1	1	0.559
MB	0.397	0.942	1	1	1	0.659
FW	0.517	0.013*	1	0.615	1	0.213
FB	0.174	0.942	1	0.211	1	0.393
Total	0.339	0.063	0.817	1	1	0.721

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for tests between CV-assisted and traditional groups based on correct responses (post-intervention) – Females.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.759	0.690	0.611	1	1	0.626
MB	0.697	0.202	0.196	0.488	0.488	0.175
FW	0.014*	0.019*	1	1	0.235	0.012*
FB	0.188	0.307	1	1	1	0.217
Total	0.033*	0.008*	0.236	1	0.115	0.005*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for tests between CV-assisted and traditional groups based on correct responses (post-intervention) - Medical Students.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.616	0.579	1	1	1	0.605
MB	0.756	0.035*	0.621	1	1	0.141
FW	0.207	0.009*	0.683	1	0.498	0.035*
FB	0.577	0.119	1	0.455	1	0.261
Total	0.234	0.001*	0.334	1	0.254	0.008*

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for tests between CV-assisted and traditional groups based on correct responses (post-intervention) - Engineering Students.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.342	0.723	1	1	1	0.565
MB	0.494	0.943	0.6	1	1	0.837
FW	0.35	0.014*	1	0.221	1	0.063
FB	0.812	0.843	1	0.493	0.475	0.9
Total	0.459	0.097	1	1	0.605	0.232

Note: * - Significance at α = 0.05.
NA – results not available because of values less than the number required to compute.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

Supplementary Table S6. Additional independent t-tests between CV-assisted and traditional groups (post-intervention).
***p*-values for tests between CV-assisted and traditional groups based on reaction time (post-intervention) – Males.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.066	0.184	0.494	0.196	0.778	0.105
MB	0.787	0.291	0.659	0.51	0.49	0.555
FW	0.826	0.069	0.251	0.332	0.779	0.368
FB	0.253	0.905	0.298	0.409	0.116	0.406
Total	0.283	0.136	0.165	0.596	0.431	0.228

Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

***p*-values for tests between CV-assisted and traditional groups based on reaction time (post-intervention) – Females.**

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.369	0.722	0.712	0.649	0.183	0.918
MB	0.631	0.377	0.656	0.922	0.535	0.762
FW	0.735	0.867	0.599	0.536	0.082	0.987
FB	0.549	0.31	0.091	0.214	0.318	0.127
Total	0.534	0.429	0.929	0.459	0.544	0.66

Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

_p_-values for tests between CV-assisted and traditional groups based on reaction time (post-intervention) - Medical Students.

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.471	0.515	0.583	0.293	0.138	0.105
MB	0.618	0.876	0.37	0.854	0.501	0.783
FW	0.784	0.875	0.334	0.584	0.014*	0.965
FB	0.155	0.761	0.702	0.481	0.471	0.979
Total	0.522	0.813	0.17	0.849	0.436	0.533

Note: * - Significance at $\alpha = 0.05$.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.

_p_-values for tests between CV-assisted and traditional groups based on reaction time (post-intervention) - Engineering Students.

-	Grade of Expression of Models					Total
	1	2	3	4	5	
MW	0.655	0.83	0.745	0.454	0.953	0.92
MB	0.331	0.726	0.819	0.696	0.839	0.833
FW	0.968	0.045*	0.524	0.421	0.301	0.289
FB	0.997	0.311	0.212	0.763	0.282	0.535
Total	0.707	0.792	0.853	0.624	0.543	0.929

Note: * - Significance at $\alpha = 0.05$.
Abbreviations: MW, male white; MB, male black; FW, female white; FB, female black.