SUPPLEMENTARY MATERIALS

The differences between immersive audio and video scenarios to mediate digital mindfulness interventions: a RCT study

Independent Samples T-Test

Independent Samples T-Test

		Statistic	df	p		Effect Size
AGE	**Student's t**	0.112	58.0	0.911	Cohen's d	0.0289
	Mann-Whitney U	424		0.704	Rank biserial correlation	-0.0578
EDUCATION	**Student's t**	0.449	58.0	0.655	Cohen's d	0.1159
	Mann-Whitney U	415		0.567	Rank biserial correlation	-0.0789
MISS_T0	**Student's t**	0.225	58.0	0.823	Cohen's d	0.0580
	Mann-Whitney U	412		0.574	Rank biserial correlation	-0.0856

Note. H_a $\mu_{sperimentale} \neq \mu_{controllo}$

Assumptions

Normality Test (Shapiro-Wilk)

	W	p
AGE	0.740	<.001
EDUCATION	0.833	<.001
MISS_T0	0.967	0.100

Note. A low p-value suggests a violation of the assumption of normality

Homogeneity of Variances Test (Levene's)

	F	df	df2	p
AGE	0.0242	1	58	0.877
EDUCATION	2.4448	1	58	0.123
MISS_T0	0.0197	1	58	0.889

Note. A low p-value suggests a violation of the assumption of equal variances

Group Descriptives

	Group	N	Mean	Median	SD	SE
AGE	**sperimentale**	30	27.4	24.0	10.65	1.944
	controllo	30	27.1	23.0	10.08	1.841
EDUCATION	**sperimentale**	30	14.8	13.0	2.57	0.469
	controllo	30	14.5	13.0	2.00	0.364
MISS_T0	**sperimentale**	30	129.8	135.0	18.21	3.324
	controllo	30	128.7	128.5	19.71	3.599

Contingency Tables

Contingency Tables

	SEX		
GROUP	**F**	**M**	**Total**
sperimentale	23	7	30
controllo	20	10	30
Total	43	17	60

χ^2 Tests

	Value	df	p
χ^2	0.739	1	0.390
N	60		

Nominal

	Value
Phi-coefficient	0.111
Cramer's V	0.111

Independent Samples T-Test

Independent Samples T-Test

		Statistic	df	p		Effect Size
Honesty-Humility	**Student's t**	0.135	58.0	0.893	Cohen's d	0.0348
	Mann-Whitney U	442		0.912	Rank biserial correlation	-0.01778
Emotionality	**Student's t**	2.217	58.0	0.031	Cohen's d	0.5724
	Mann-Whitney U	325		0.064	Rank biserial correlation	-0.27889
Extraversion	**Student's t**	-0.506	58.0	0.614	Cohen's d	-0.1308
	Mann-Whitney U	399		0.455	Rank biserial correlation	0.11333
Agreeableness	**Student's t**	-0.771	58.0	0.444	Cohen's d	-0.1992
	Mann-Whitney U	411		0.564	Rank biserial correlation	0.08778
Conscientiousness	**Student's t**	0.327	58.0	0.745	Cohen's d	0.0843
	Mann-Whitney U	438		0.865	Rank biserial correlation	-0.02667
Openness	**Student's t**	-0.341	58.0	0.734	Cohen's d	-0.0880
	Mann-Whitney U	435		0.830	Rank biserial correlation	0.03333
Altruism	**Student's t**	0.638[a]	58.0	0.526	Cohen's d	0.1649
	Mann-Whitney U	447		0.964	Rank biserial correlation	-0.00778

Note. H_a $\mu_{sperimentale} \neq \mu_{controllo}$

[a] Levene's test is significant ($p < .05$), suggesting a violation of the assumption of equal variances

Assumptions

Normality Test (Shapiro-Wilk)

	W	p
Honesty-Humility	0.984	0.619
Emotionality	0.988	0.802
Extraversion	0.979	0.407
Agreeableness	0.983	0.586
Conscientiousness	0.985	0.687
Openness	0.991	0.926
Altruism	0.951	0.017

Note. A low p-value suggests a violation of the assumption of normality

Homogeneity of Variances Test (Levene's)

	F	df	df2	p
Honesty-Humility	1.887	1	58	0.175
Emotionality	0.579	1	58	0.450
Extraversion	2.045	1	58	0.158
Agreeableness	0.304	1	58	0.583
Conscientiousness	0.643	1	58	0.426
Openness	0.391	1	58	0.534
Altruism	6.135	1	58	0.016

Note. A low p-value suggests a violation of the assumption of equal variances

Group Descriptives

	Group	N	Mean	Median	SD	SE
Honesty-Humility	**sperimentale**	30	5.79	5.72	0.911	0.166
	controllo	30	5.76	5.74	1.161	0.212
Emotionality	**sperimentale**	30	5.47	5.61	0.813	0.148
	controllo	30	4.97	5.09	0.959	0.175
Extraversion	**sperimentale**	30	4.81	4.87	1.179	0.215
	controllo	30	4.95	5.03	0.933	0.170
Agreeableness	**sperimentale**	30	4.88	4.81	0.811	0.148
	controllo	30	5.05	4.91	0.878	0.160
Conscientiousness	**sperimentale**	30	5.53	5.55	0.782	0.143
	controllo	30	5.46	5.46	0.964	0.176
Openness	**sperimentale**	30	5.11	5.10	0.815	0.149
	controllo	30	5.18	5.18	0.727	0.133
Altruism	**sperimentale**	30	5.61	5.66	0.654	0.119
	controllo	30	5.46	5.66	1.035	0.189

Independent Samples T-Test

Independent Samples T-Test

		Statistic	df	p		Effect Size
d_MAAS	**Student's t**	1.514	58.0	0.135	Cohen's d	0.391
	Mann-Whitney U	390		0.375	Rank biserial correlation	-0.1344
d_SPANE	**Student's t**	2.326	58.0	0.024	Cohen's d	0.601
	Mann-Whitney U	260		0.005	Rank biserial correlation	-0.4233
d_MHC_SF	**Student's t**	2.050	58.0	0.045	Cohen's d	0.529
	Mann-Whitney U	317		0.050	Rank biserial correlation	-0.2956
d_PSS10	**Student's t**	-0.411	58.0	0.683	Cohen's d	-0.106
	Mann-Whitney U	400		0.458	Rank biserial correlation	0.1122
d_STAI-s	**Student's t**	-0.551	58.0	0.584	Cohen's d	-0.142
	Mann-Whitney U	407		0.529	Rank biserial correlation	0.0956
d_BDI	**Student's t**	-1.532	58.0	0.131	Cohen's d	-0.396
	Mann-Whitney U	374		0.263	Rank biserial correlation	0.1689
d_STAI_t	**Student's t**	-1.729	58.0	0.089	Cohen's d	-0.446
	Mann-Whitney U	354		0.157	Rank biserial correlation	0.2133
d_WHO5	**Student's t**	1.763	58.0	0.083	Cohen's d	0.455
	Mann-Whitney U	356		0.165	Rank biserial correlation	-0.2089

Note. H_a $\mu_{sperimentale} \neq \mu_{controllo}$

Assumptions

Normality Test (Shapiro-Wilk)

	W	p
d_MAAS	0.969	0.133
d_SPANE	0.936	0.003
d_MHC_SF	0.989	0.849
d_PSS10	0.973	0.197
d_STAI-s	0.959	0.043
d_BDI	0.960	0.047
d_STAI_t	0.880	<.001
d_WHO5	0.976	0.291

Note. A low p-value suggests a violation of the assumption of normality

Homogeneity of Variances Test (Levene's)

	F	df	df2	p
d_MAAS	1.7318	1	58	0.193
d_SPANE	1.4877	1	58	0.228
d_MHC_SF	2.2664	1	58	0.138
d_PSS10	1.0635	1	58	0.307
d_STAI-s	0.0250	1	58	0.875
d_BDI	1.8630	1	58	0.178
d_STAI_t	2.9726	1	58	0.090
d_WHO5	1.0473	1	58	0.310

Note. A low p-value suggests a violation of the assumption of equal variances

Group Descriptives

	Group	N	Mean	Median	SD	SE
d_MAAS	**sperimentale**	30	0.124	0.0650	0.625	0.114
	controllo	30	-0.0893	0.100	0.455	0.0832
d_SPANE	**sperimentale**	30	4.333	5.0000	6.572	1.200
	controllo	30	1.0000	1.000	4.291	0.7834
d_MHC_SF	**sperimentale**	30	5.200	6.5000	8.401	1.534
	controllo	30	1.4000	1.500	5.703	1.0412
d_PSS10	**sperimentale**	30	-1.867	-2.0000	5.277	0.963
	controllo	30	-1.3667	-1.000	4.072	0.7435
d_STAI-s	**sperimentale**	30	-7.300	-4.5000	9.795	1.788
	controllo	30	-5.9000	-5.500	9.876	1.8032
d_BDI	**sperimentale**	30	-5.933	-5.0000	6.581	1.201
	controllo	30	-3.6333	-3.000	4.930	0.9002
d_STAI_t	**sperimentale**	30	-5.000	-4.0000	7.799	1.424
	controllo	30	-2.2333	-2.000	3.997	0.7298
d_WHO5	**sperimentale**	30	2.767	2.0000	4.539	0.829
	controllo	30	0.8667	1.000	3.776	0.6894

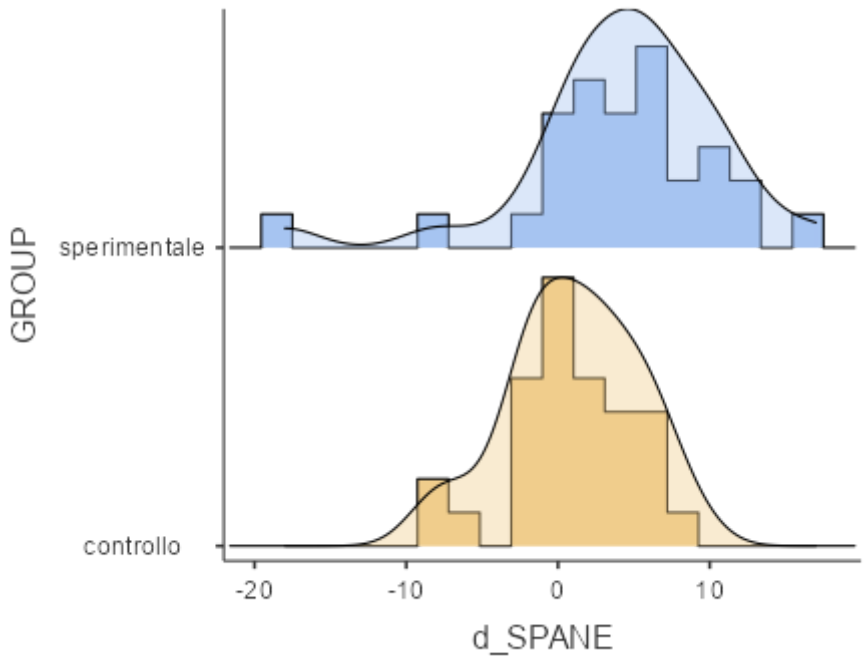
Descriptives

Descriptives

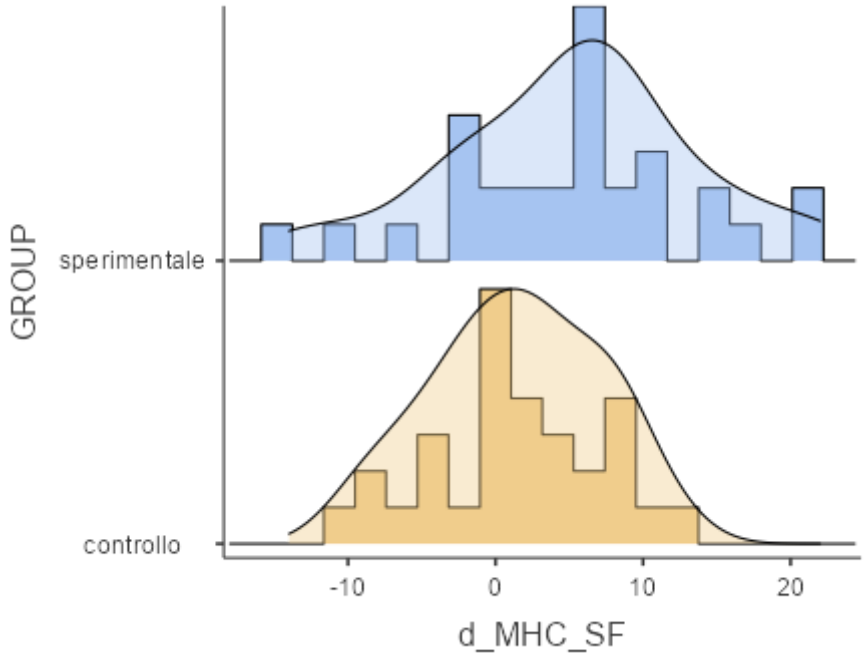
	GROUP	d_SPANE	d_MHC_SF	d_PSS10	d_STAI-s	d_MAAS	d_WHO5	d_STAI_t	d_BDI
N	**sperimentale**	30	30	30	30	30	30	30	30
	controllo	30	30	30	30	30	30	30	30
Missing	**sperimentale**	0	0	0	0	0	0	0	0
	controllo	0	0	0	0	0	0	0	0
Mean	**sperimentale**	4.33	5.20	-1.87	-7.30	0.124	2.77	-5.00	-5.93
	controllo	1.00	1.40	-1.37	-5.90	-0.0893	0.867	-2.23	-3.63
Median	**sperimentale**	5.00	6.50	-2.00	-4.50	0.0650	2.00	-4.00	-5.00
	controllo	1.00	1.50	-1.00	-5.50	0.100	1.00	-2.00	-3.00
Standard deviation	**sperimentale**	6.57	8.40	5.28	9.79	0.625	4.54	7.80	6.58
	controllo	4.29	5.70	4.07	9.88	0.455	3.78	4.00	4.93
Minimum	**sperimentale**	-18	-14	-10	-33	-0.870	-7	-34	-24
	controllo	-8	-10	-10	-36	-1.20	-9	-11	-14
Maximum	**sperimentale**	17	22	14	11	1.40	12	7	4
	controllo	9	12	7	11	0.530	8	4	11

Plots

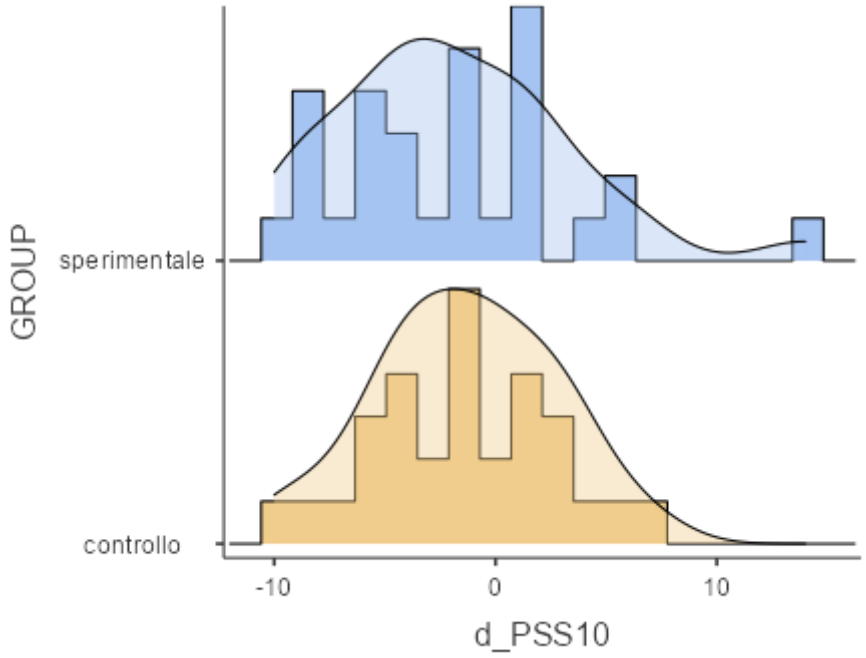
d_SPANE



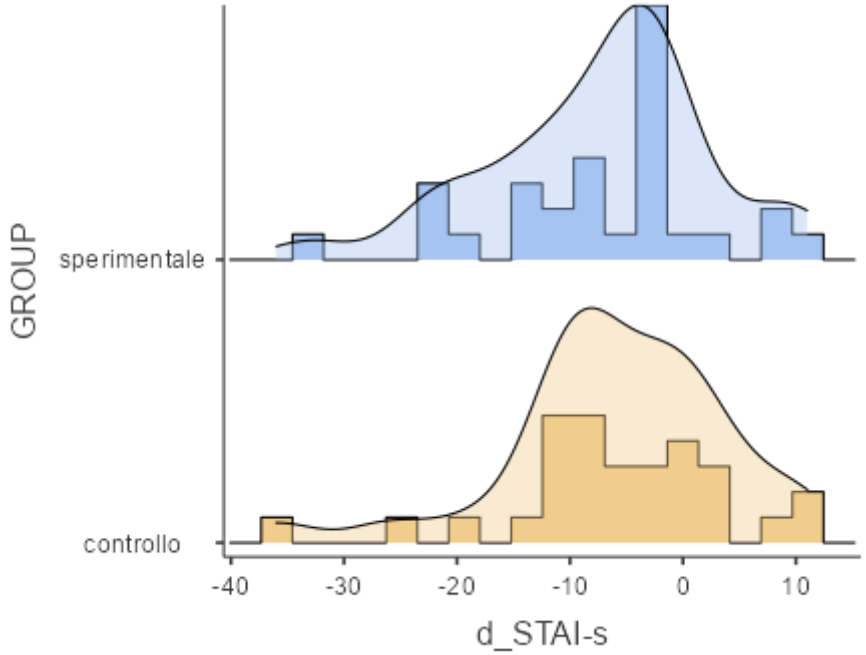
d_MHC_SF



d_PSS10



d_STAI-s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controllo
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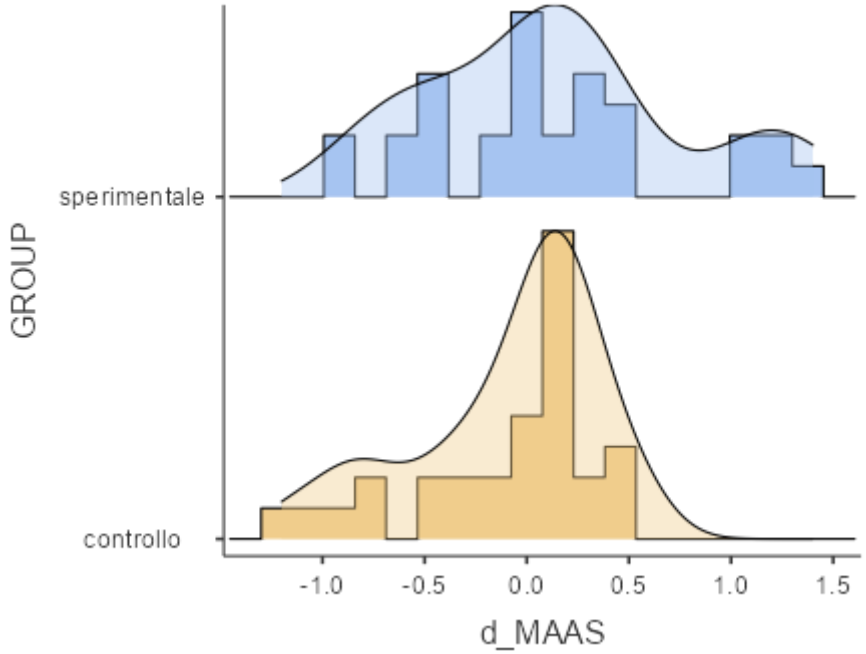
-20
-10
0
10
d_STAI-s

d_MAAS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controllo
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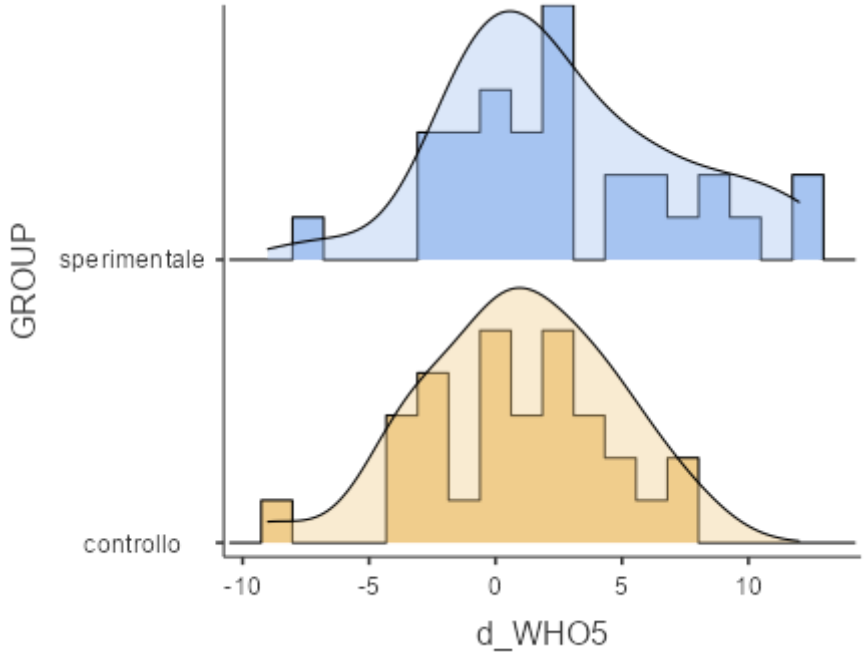
0.5
1.0
1.5
d_MAAS

d_WHO5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controllo
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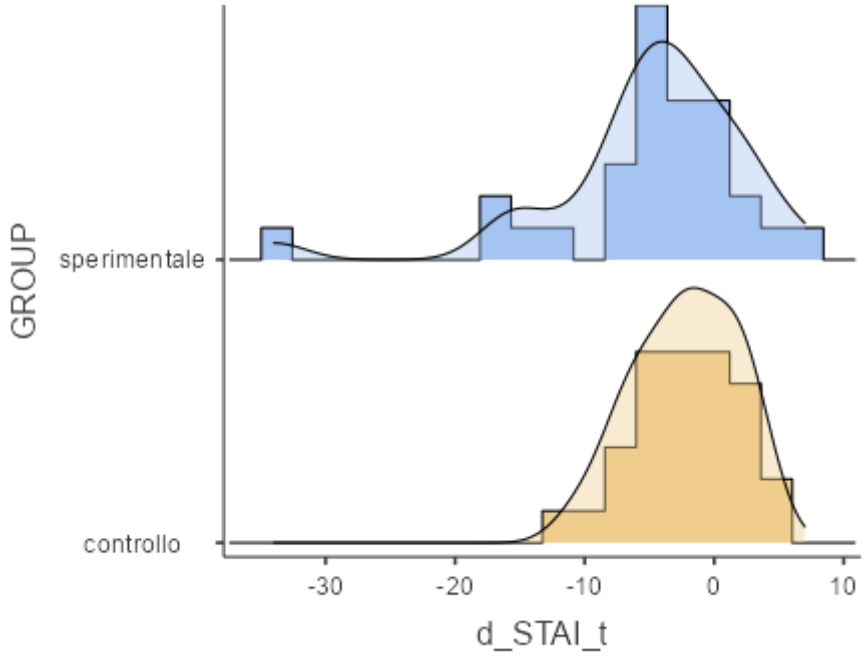
10
d_WHO5

d_STAI_t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controllo
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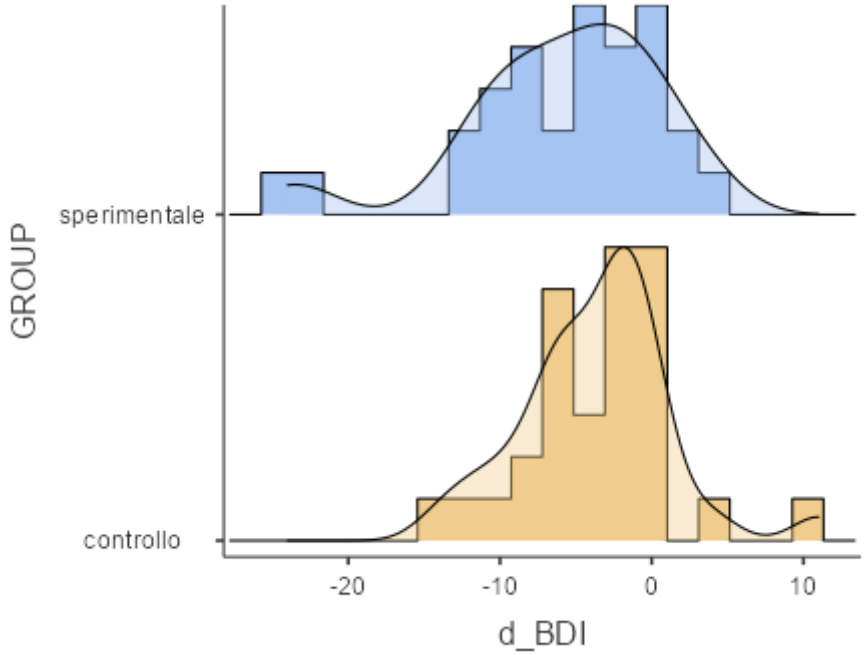
0
10
d_STAI_t

d_BDI


GROUP
sperimentale
controllo
-20
-10
0
10
d_BDI

Linear Regression

Model Fit Measures

Model	R	R^2
1	0.285	0.0813

Note. Models estimated using sample size of N=60

Model Coefficients - d_MHC_SF

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept[a]	5.265	1.39	3.789	<.001	
GROUP:					
controllo – sperimentale	-3.542	1.95	-1.814	0.075	-0.4805
emotionality_c	-0.255	1.66	-0.154	0.878	-0.0318
emotionality_c ✻ GROUP:					
emotionality_c ✻ (controllo – sperimentale)	1.525	2.17	0.702	0.486	0.1898

[a] Represents reference level

Assumption Checks

Collinearity Statistics

	VIF	Tolerance
GROUP	1.09	0.920
emotionality_c	2.59	0.386
emotionality_c ✻ GROUP	2.48	0.404

Linear Regression

Model Fit Measures

Model	R	R^2
1	0.335	0.112

Note. Models estimated using sample size of N=60

Model Coefficients - d_SPANE

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept[a]	4.492	1.07	4.213	<.001	
emotionality_c	-0.623	1.27	-0.490	0.626	-0.0994
GROUP:					
controllo – sperimentale	-3.161	1.50	-2.110	0.039	-0.5493
emotionality_c ✻ GROUP:					
emotionality_c ✻ (controllo – sperimentale)	1.925	1.67	1.155	0.253	0.3071

[a] Represents reference level

Assumption Checks

Collinearity Statistics

	VIF	Tolerance
emotionality_c	2.59	0.386
GROUP	1.09	0.920
emotionality_c ✻ GROUP	2.48	0.404

Analysis of interaction

To further account for baseline differences in emotionality, linear regression models were conducted with changes in positive affect (ΔSPANE) and emotional well-being (ΔMHC-SF) as dependent variables. In both models, group (experimental vs. control), mean-centered baseline emotionality, and their interaction term were entered as predictors. The model predicting change in positive affect (SPANE) explained 11.2% of the variance, $R^2 = 0.112$. The effect of the group was not statistically significant, $p = 0.143$, although the direction of the effect indicated greater improvements in the experimental group compared to the control group. Baseline emotionality and the interaction between emotionality and group were not significant predictors, indicating that changes in positive affect were independent of initial levels of emotionality. Similarly, the model predicting change in emotional well-being (MHC_SF) explained 8.1% of the variance, $R^2 = 0.081$. The effect of the group did not reach statistical significance, $p = 0.075$, and neither baseline emotionality nor its interaction with the group emerged as significant predictors. These results indicate that improvements in emotional well-being were not influenced by baseline emotionality and that the effects of the intervention were consistent across different levels of this personality trait (see supplementary materials “Linear Regression (emotionality)”).