Appendices

Supplemental Materials Table 1. Sample demographic characteristics

Variable	Full Sample	Control	Breath Awareness	Loving-kindness	Gratitude	*p*
Race/Ethnicity (%)						
Asian	5.56	5.13	8.11	7.14	2.27	
Black	4.32	5.13	2.70	4.76	4.55	
Latinx	4.32	2.56	2.70	2.38	9.09	
Multiracial	5.56	7.69	0.00	7.14	6.82	
Not reported	5.56	5.13	2.70	4.76	9.09	
White	74.69	74.36	83.78	73.81	68.18	.460
Gender (%)						
Male	36.42	35.9	37.84	28.57	43.18	
Female	63.58	64.1	62.16	71.43	56.82	.574
Meditation (%)						
No	83.33	87.18	83.78	80.95	81.82	
Yes	16.67	12.82	16.22	19.05	18.18	.884
Age (mean [SD])	19.31 (0.75)	19.20 (0.72)	19.39 (0.77)	19.36 (0.77)	19.30 (0.75)	.690

Note: Meditation = practiced meditation in the past month; *p* = *p*-values from one-way analysis of variance comparing groups at baseline.

Supplemental Materials Table 2. Missing data accounting

	Control (n = 39)	Breath Awareness (n = 37)	Loving-kindness (n = 42)	Gratitude (n = 44)
Missing pre-test OSPAN	1	2	2	4
Missing pre-test OSPAN reason	Accuracy <85% (n = 1)	Accuracy <85% (n = 2)	Accuracy <85% (n = 2)	Fell asleep during task (n = 1), Accuracy <85% (n = 3)
Did not complete CPT	8	2	2	6
Missing post-test OSPAN	4	5	4	7
Missing post-test OSPAN reason	Accuracy <85% (n = 4)	Adverse reaction to CPT (n = 3), Accuracy <85% (n = 2)	Accuracy <85% (n = 4)	Fell asleep at baseline (n = 1), Adverse reaction to CPT (n = 2), Accuracy <85% (n = 4)

Note: OSPAN = Operation Span task; CPT = cold pressor test; Accuracy = accuracy solving mathematical operations in OSPAN. Typical adverse reaction to CPT was becoming "dizzy," with one participant fainting.

Supplemental Materials Table 3. Syntax for multiple imputation model

```
library(jomo)
library(mitools)
library(mice)

imp10<-jomo1(df[,c("Ospan1Total","Ospan2Total","CPT_complete",
           "PANAS.neg.1","PANAS.neg.3",
           "PANAS.pos.1","PANAS.pos.3",
            "gender","age.years","white","med.recent",
           "Condition")],
        nimp=10)
outjomo<-subset(imp10,Imputation>0)
mi_list <- imputationList(split(outjomo, outjomo$Imputation))
mi_results <- with(mi_list, lm(Ospan2Total ~ Ospan1Total + Condition))
summary(pool(as.mira(mi_results)))

outjomo<-subset(imp10,Imputation>0 & !Condition=="CT")
mi_list <- imputationList(split(outjomo, outjomo$Imputation))
mi_results <- with(mi_list, lm(Ospan2Total ~ Ospan1Total + Condition))
summary(pool(as.mira(mi_results)))
```

Supplemental Materials Table 4. Linear model predicting post-stressor OSPAN in the full sample with control as reference group

Variable	*B*	SE	*t*	*p*
(Intercept)	23.72	4.11	5.77	< .001***
Baseline OSPAN	0.66	0.06	10.44	< .001***
Breath Awareness	-4.08	2.04	-2.01	.047*
Loving-kindness	0.92	1.95	0.47	.638
Gratitude	0.19	1.97	0.09	.925

Note: *B* = unstandardized coefficient; SE = standard error; *t* = *t*-value; *p* = *p*-value; OSPAN = Operation Span.
p < .050, **p* < .010, ***p* < .001

Supplemental Materials Table 5. Linear model predicting post-stressor OSPAN in the full sample with breath awareness as reference group

Variable	*B*	SE	*t*	*p*
(Intercept)	19.68	4.95	3.97	< .001***
Baseline OSPAN	0.66	0.08	8.46	< .001***
Loving-kindness	5.00	2.14	2.34	.021*
Gratitude	4.27	2.15	1.98	.050*

Note: *B* = unstandardized coefficient; SE = standard error; *t* = *t*-value; *p* = *p*-value; OSPAN = Operation Span. Control group omitted from model.
*p < .050, **p < .010, ***p < .001

Supplemental Materials Table 6. Linear model predicting post-stressor OSPAN in cold pressor test completers with control as reference group

Variable	B	SE	t	p
(Intercept)	27.52	4.62	5.95	< .001***
Baseline OSPAN	0.61	0.07	8.62	< .001***
Breath Awareness	-5.16	2.2	-2.35	.020*
Loving-kindness	0.09	2.13	0.04	.967
Gratitude	-0.69	2.19	-0.32	.752

Note: B = unstandardized coefficient; SE = standard error; t = t-value; p = p-value; OSPAN = Operation Span.
*$p < .050$, **$p < .010$, ***$p < .001$

Supplemental Materials Table 7. Linear model predicting post-stressor OSPAN in cold pressor test completers with breath awareness as reference group

Variable	*B*	SE	*t*	*p*
(Intercept)	22.86	5.46	4.18	< .001***
Baseline OSPAN	0.61	0.09	6.99	< .001***
Loving-kindness	5.25	2.17	2.41	.018*
Gratitude	4.46	2.24	1.99	.049*

Note: *B* = unstandardized coefficient; SE = standard error; *t* = *t*-value; *p* = *p*-value; OSPAN = Operation Span. Control group omitted from model.
*p < .050, **p < .010, ***p < .001

Supplemental Materials Table 8. Linear model predicting post-stressor OSPAN in full sample with missing data replaced using multiple imputation with control as reference group

Variable	B	SE	t	p
(Intercept)	22.27	4.25	5.24	$< .001$***
Baseline OSPAN	0.69	0.06	10.61	$< .001$***
Breath Awareness	-4.78	2.07	-2.31	.023*
Loving-kindness	0.73	2	0.37	.715
Gratitude	-0.16	2.03	-0.08	.936

Note: B = unstandardized coefficient; SE = standard error; t = t-value; p = p-value; OSPAN = Operation Span.
*$p < .050$, **$p < .010$, ***$p < .001$

Supplemental Materials Table 9. Linear model predicting post-stressor OSPAN in full sample with missing data replaced using multiple imputation with control as reference group

Variable	*B*	SE	*t*	*p*
(Intercept)	16.72	4.77	3.50	.001**
Baseline OSPAN	0.70	0.08	9.11	< .001***
Loving-kindness	5.52	2.15	2.57	.012*
Gratitude	4.63	2.14	2.17	.033*

Note: *B* = unstandardized coefficient; SE = standard error; *t* = *t*-value; *p* = *p*-value; OSPAN = Operation Span. Control group omitted from model.
*p < .050, **p < .010, ***p < .001
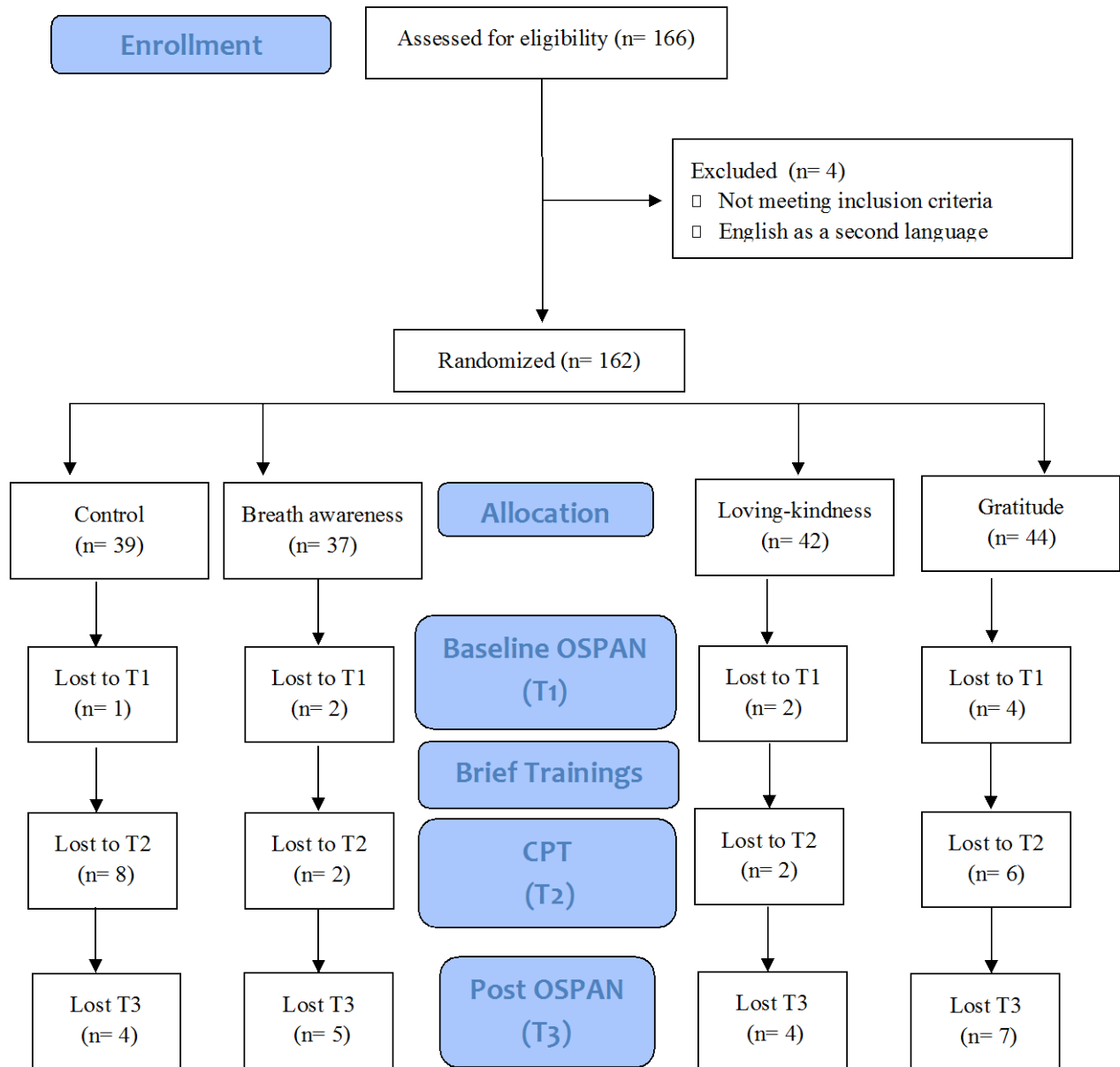
Supplemental Materials Figure 1. CONSORT flow diagram. Note that primary models included all participants will available pre- and post-stressor Operation Span (OSPAN) data, regardless of cold pressor test (CPT) completion. Analyzed sample sizes for primary linear models were 35, 31, 37, and 36 for control, breath awareness, loving-kindness, and gratitude respectively. See Supplemental Materials Table 2 for additional details regarding the cause of missing data.