

Supplementary material

Analyses including only women taking contraceptives and men

1. Memory for newly learned vocabulary

Anova results:

Time $F(1, 68) = 3.41, p = .069, \eta^2 = .048$

Group $F(2, 68) = 2.23, p = .115, \eta^2 = .062$

Time x Group $F(2, 68) = 4.09, p = .021, \eta^2 = .107$

Table 1. Descriptive statistics and contrast analysis for memory scores

	high-intensity group N = 26	low-intensity group N = 24	relaxing group N = 21	contrast analysis
Day 1 mean (SD)	3.88 (2.66)	3.75 (2.56)	5.67 (3.02)	high-intensity vs. relaxing: $t(68) = -2.22, p = .030$ low-intensity vs. relaxing: $t(68) = -2.34, p = .022$
Day 2 mean (SD)	4.08 (2.33)	3.58 (2.50)	4.81 (3.12)	high-intensity vs. relaxing: $t(68) = -0.95, p = .348$ low-intensity vs. relaxing: $t(68) = -1.55, p = .125$
Difference score day 2 minus day 1 mean (SD)	.19 (1.10)	-.17 (1.40)	-.86 (1.28)	high-intensity vs. relaxing: $t(68) = 2.84, p = .006$ low-intensity vs. relaxing: $t(68) = 1.83, p = .071$

2. BDNF

Anova results:

Time $F(2, 132) = 5.68, p = .004, \eta^2 = .079$

Group $F(2, 66) = 1.86, p = .163, \eta^2 = .053$

Time x Group $F(4, 132) = 16.35, p < .001, \eta^2 = .331$

Table 2. Descriptive statistics and contrast analysis for the increase in BDNF after exercising

	high-intensity group N = 26	low-intensity group N = 21	relaxing group N = 22	contrast analysis
Difference BDNF t2 minus t0 mean (SD)	2.93 (3.23)	-.72 (2.09)	-1.93 (2.60)	high-intensity vs. relaxing: $t(66) = 6.15, p < .001$ low-intensity vs. relaxing: $t(66) = 1.45, p = .152$

3. Cortisol

Anova results:

Time $F(3, 189) = 15.49, p < .001, \eta^2 = .197$

Group $F(2, 63) = 0.39, p = .676, \eta^2 = .012$

Time x Group $F(6, 189) = 5.29, p < .001, \eta^2 = .144$

Table 3. Descriptive statistics and contrast analysis for the increase in cortisol 20 min after exercising

	high-intensity group N = 26	low-intensity group N = 20	relaxing group N = 20	contrast analysis
Difference cortisol t3 minus t0, mean (SD)	1.08 (4.22)	-1.47 (2.20)	-2.02 (2.00)	high-intensity vs. relaxing: $t(63) = 3.35, p = .001$ low-intensity vs. relaxing: $t(63) = 0.56, p = .578$