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Brain, Behavior, and Immunity

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Affective and inflammatory responses among orchestra musicians in performance situation [☆]



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Stress bei Orchestermmitgliedern



Orchesterprobe



Uraufführung

Biologisches Monitoring

Levels of cortisol, CRP, MPO, folic acid, Hcy, PON-1 activity, MDA and SAM ratings on the day of rehearsal and on the day of premiere.

Variable	Rehearsal		Premiere		n	p-Value
	Mean (SD)	Median (range)	Mean (SD)	Median (range)		
<i>Biological markers</i>						
Cortisol T1 (µg/dl)	.54 (.21)	.51 (.17–1.23)	.67 (.24)	.67 (.17–1.22)	44	.001 ^b
T2 (µg/dl)	.60 (.22)	.59 (.19–1.26)	.62 (.22)	.62 (.17–1.22)	46	.592 ^b
T3 (µg/dl)	.27 (.15)	.24 (.08–.79)	.39 (.20)	.38 (.08–.95)	45	<.001 ^b
T4 (µg/dl)	.20 (.14)	.16 (.05–.92)	.23 (.15)	.18 (.03–.63)	47	.169 ^b
T5 (µg/dl)	.19 (.19)	.13 (.02–1.00)	.20 (.12)	.17 (.02–.52)	47	.040 ^{a,†}
AUC (µg h/dl)	3.28 (1.09)	3.06 (1.74–6.47)	3.93 (1.32)	3.93 (1.76–6.28)	41	<.001 ^b
CRP (mg/dl)	.11 (.12)	.06 (.02–.51)	.12 (.15)	.06 (.02–.98)	48	.813 ^b
IL-6 (pg/ml)	2.98 (.60)	3.00 (1.78–4.74)	3.78 (.61)	3.84 (2.66–5.56)	48	.001 ^b
MPO (ng/ml)	124.5 (41.5)	125.3 (28.8–258.3)	149.3 (44.6)	146.4 (62.5–255.6)	48	<.001 ^b
Folic acid (nmol/l)	16.6 (6.0)	16.3 (6.1–31.2)	17.3 (7.0)	15.8 (8.9–41.0)	48	.138 ^b
Hcy (µmol/l)	11.0 (3.0)	10.6 (4.9–20.3)	11.5 (2.9)	10.7 (5.8–21.6)	48	.027 ^{b,†}
PON-1 activity (U/ml)	13.3 (2.3)	13.5 (9.4–19.1)	13.5 (2.4)	13.5 (9.0–21.0)	48	.219 ^b
MDA (µmol/l)	.15 (.02)	.15 (.10–.19)	.15 (.02)	.15 (.12–.20)	48	.288 ^b
<i>Self assessment Manikin (SAM)</i>						
Valence	6.7 (1.5)	7.0 (3.0–9.0)	7.4 (1.7)	7.0 (3.0–9.0)	48	.014 ^a
Arousal	4.3 (1.6)	4.5 (1.0–9.0)	5.9 (1.7)	6.0 (1.0–9.0)	48	<.001 ^a
Dominance	5.4 (1.5)	5.0 (1.0–9.0)	6.3 (1.7)	7.0 (1.0–9.0)	48	.003 ^a

^a Wilcoxon matched-pairs signed-ranks test.

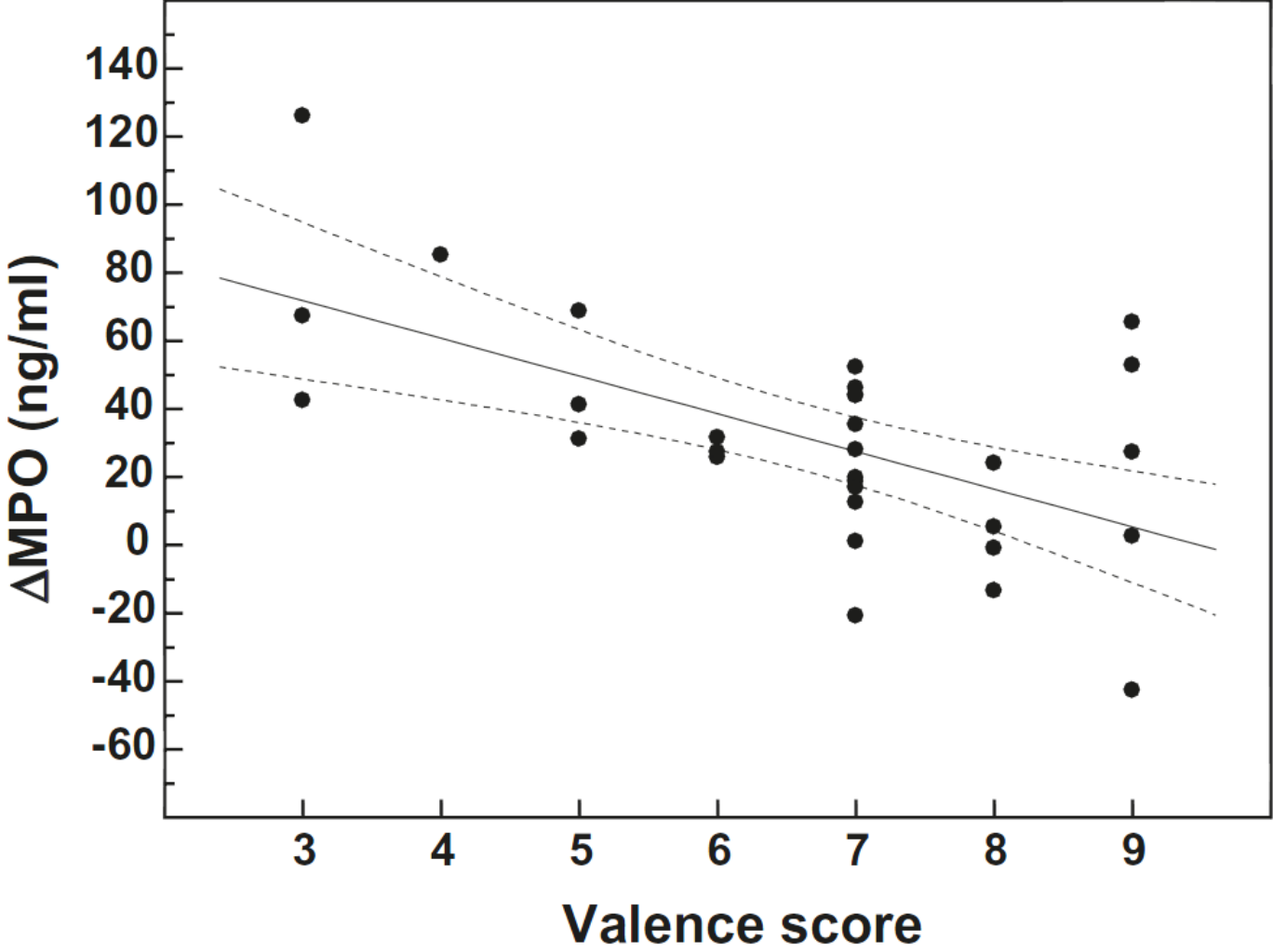
^b Paired samples *t*-test.

[†] No longer significant due to Bonferroni–Holm adjustment of error type I.

Stress im Orchester: Die Laune spielt mit

(Wien, 23-12-2013) Auch professionelle Orchestermusiker stehen am Konzerttag unter besonderem Stress und schütten mehr Cortisol aus. Erstmals konnte jetzt gezeigt werden, dass unter anderem auch das **Enzym Myeloperoxidase**, das als Risikofaktor für Herz-Kreislauf-Erkrankungen gilt, **an der Stressreaktion bei Musikern beteiligt** ist. Allerdings wird dieser Effekt durch einen emotionalen Faktor gebremst: Denn **gute Laune vermindert die stress-induzierte Ausschüttung von Myeloperoxidase.**

Gute Laune mildert den MPO-Effekt



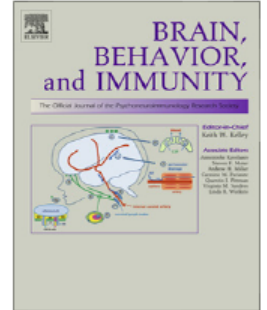


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Brief Commentary

The immune response to stress in orchestra musicians: Setting the stage for naturalistic paradigms



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this study by Pilger et al. presents **important and novel findings** regarding the association between inflammation and the emotional response to stress in a group of adults under real-life conditions. This study will hopefully **“set the stage” for future studies** examining inflammatory responses to common, real-world stressors in naturalistic paradigms.

