Supplementary online material

«A highly cognitive demanding working memory task may prevent the development of nociceptive hypersensitivity»

Supplementary methods

The *Intolerance of Uncertainty Scale* (*IUS;*[3]) includes 27 statements describing how people may feel in response to life uncertainties. Participants have to provide a 1 to 5 judgment on the scale 'Not at all characteristic of me' to 'Entirely characteristic of me'. In our scoring system higher scores point to the belief that uncertainty has negative and unfair implications.

The *Positive and Negative Affect Schedule* (*PANAS*; [41]) assesses the degree of positive and negative affect. It is composed of 20 affective words, 10 positive (e.g., interested, enthusiastic, proud, attentive) and 10 negative (e.g., irritable, frightened, ashamed, hostile). Participants rate how much they have felt as such over the past week. Each item is rated on a 5-point Likert scale ranging from 1 (very slightly or not at all) to 5 (extremely). High mean total scores indicate high positive or negative affect.

The *Life Orientation Test-Revised* (*LOT-R;* [18]) is a 10-item scale exploring expectancies for positive versus negative outcomes. Participants have to indicate their agreement ranging from 0 (strong disagreement) to 4 (strong agreement). Higher scores indicate greater optimism.

The *Pain Catastrophizing Scale* (*PCS*;[23]) is a 13-item scale assessing catastrophic thinking in response to pain. The questionnaire consists of 3 subscales: helplessness, magnification, and rumination. Ratings are provided on a 5-point scale ranging from 0 (not at all) to 4 (always). High mean total scores indicate high pain catastrophizing.

Supplementary results

Frequentist approach

Mechanical hypersensitivity			
	F value	***P value***	***Partial Eta squared***
Experiment 1			
Time	1.866	0.169	0.089
Side	11.717	0.003	0.381
Time x Side	11.722	<0.001	0.382
Experiment 2			
Time	1.106	0.342	0.058
Side	16.454	<0.001	0.478
Time x Side	11.168	<0.001	0.383
Experiment 3			
Time	0.951	0.365	0.048
Side	10.633	0.004	0.359
Time x Side	2.358	0.108	0.110

Table S1. Complete statistics for the three experiments. Significant results are highlighted in red

Bayesian approach

Experiment 1

Model Comparison

Models	P(M)	P(M|data)	BF_M	BF_{10}	error %
Null model (incl. subject)	0.200	0.001	0.005	1.000	
Time + Side + Time ✻ Side	0.200	0.621	6.543	454.323	1.872
Side	0.200	0.262	1.419	191.697	3.507
Time + Side	0.200	0.116	0.523	84.663	1.599
Time	0.200	5.029e -4	0.002	0.368	1.330

Note. All models include subject

Analysis of Effects

Effects	P(incl)	P(incl|data)	BF_{incl}
Time	0.600	0.737	1.866
Side	0.600	0.998	356.037
Time ✻ Side	0.200	0.621	6.543

Table S2. Complete statistics for Bayesian analysis of experiment 1

Experiment 2

Model Comparison

Models	P(M)	P(M|data)	BF_M	BF_{10}	error %
Null model (incl. subject)	0.200	0.001	0.005	1.000	
Time + Side + Time ✻ Side	0.200	0.573	5.374	455.129	2.875
Side	0.200	0.335	2.018	266.209	0.787
Time + Side	0.200	0.090	0.395	71.343	1.047
Time	0.200	2.884e -4	0.001	0.229	1.280

Note. All models include subject

Analysis of Effects

Effects	P(incl)	P(incl|data)	BF_{incl}
Time	0.600	0.663	1.314
Side	0.600	0.998	429.992
Time ✻ Side	0.200	0.573	5.374

Table S3. Complete statistics for Bayesian analysis of experiment 2

Experiment 3

Model Comparison

Models	P(M)	P(M|data)	BF M	BF 10	error %
Null model (incl. subject)	0.200	0.014	0.056	1.000	
Side	0.200	0.724	10.474	52.473	0.706
Time + Side	0.200	0.178	0.868	12.929	4.186
Time + Side + Time ✻ Side	0.200	0.081	0.354	5.900	37.916
Time	0.200	0.003	0.012	0.210	0.749

Note. All models include subject

Analysis of Effects

Effects	P(incl)	P(incl|data)	BF incl
Time	0.600	0.263	0.237
Side	0.600	0.983	39.278
Time ✻ Side	0.200	0.081	0.354

Table S4. Complete statistics for Bayesian analysis of experiment 3

Event related potentials

Somatosensory evoked potentials N1 latency			
	F value	***P value***	***Partial Eta squared***
Experiment 1			

Time	0.281	0.757	0.018
Side	0.058	0.813	0.004
Time x Side	0.789	0.464	0.050
Experiment 2			
Time	1.178	0.321	0.069
Side	1.243	0.281	0.072
Time x Side	0.003	0.997	0.000
Experiment 3			
Time	2.025	0.148	0.106
Side	.000	0.988	0.000
Time x Side	1.099	0.345	0.061
Somatosensory evoked potentials N1 amplitude			
	F value	***P value***	***Partial Eta squared***
Experiment 1			
Time	1.349	0.275	0.083
Side	0.161	0.694	0.011
Time x Side	0.138	0.810	0.009
Experiment 2			
Time	3.291	0.050	0.171
Side	1.455	0.245	0.083
Time x Side	0.292	0.749	0.018
Experiment 3			
Time	3.703	0.035	0.179
Side	4.630	0.046	0.214
Time x Side	1.404	0.259	0.076

Table S5. Complete statistics for the three experiments. Significant results are highlighted in red

Somatosensory evoked potentials P2 latency			
	F value	***P value***	***Partial Eta squared***
Experiment 1			
Time	3.262	0.052	0.179
Side	1.054	0.321	0.066
Time x Side	1.754	0.190	0.105
Experiment 2			
Time	1.800	0.182	0.101
Side	0.302	0.590	0.019
Time x Side	2.286	0.118	0.125
Experiment 3			
Time	1.787	0.183	0.095
Side	0.983	0.335	0.055
Time x Side	0.805	0.455	0.045
Somatosensory evoked potentials P2 amplitude			

	F value	*P value*	*Partial Eta squared*
Experiment 1			
Time	1.338	0.277	0.082
Side	0.270	0.611	0.018
Time x Side	0.491	0.617	0.032
Experiment 2			
Time	0.061	0.941	0.004
Side	0.292	0.596	0.018
Time x Side	0.131	0.878	0.008
Experiment 3			
Time	4.520	0.018	0.210
Side	1.978	0.178	0.104
Time x Side	0.582	0.564	0.033

Table S6. Complete statistics for the three experiments. Significant results are highlighted in red

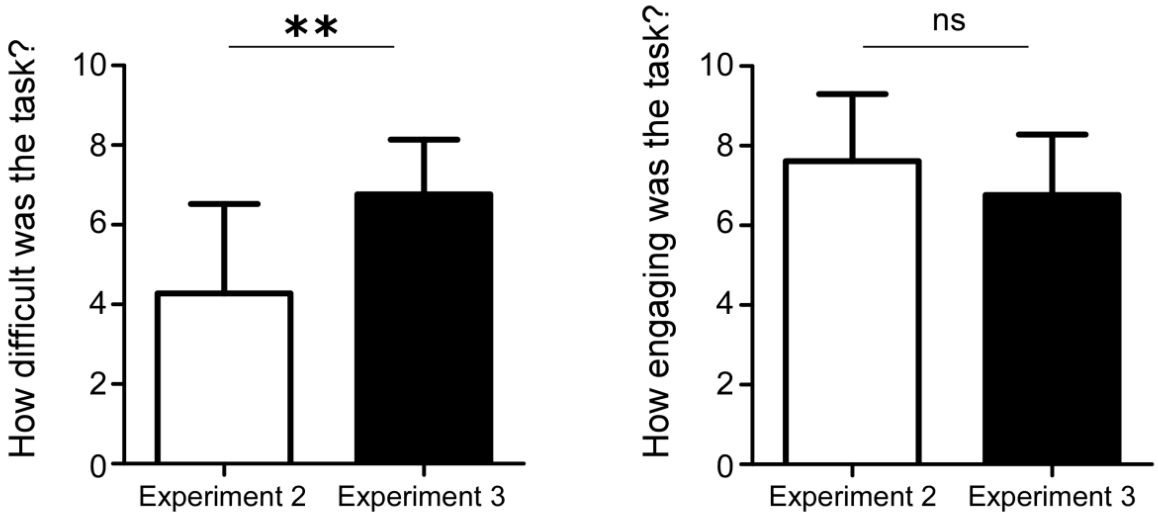

Figure S1. Participants scored the Flanker and the N-back tasks as equally engaging (Mann-Whitney test for independent samples Z=-1.83 p=0.067). The N-back task was rated as more difficult (Mann-Whitney test for independent samples Z=3.33 p<0.001)