Supplementary Files for Beaurenaut et al.'s 'The 'Threat of Scream' paradigm: A tool for studying sustained physiological and subjective anxiety'

Description

The present work aimed at assessing the efficiency of a new version of TOSc paradigm during which we delivered unpredictable human distress screams at low intensity (70dB instead of 95dB used in the past). In the main manuscript, we discussed findings related to tonic skin conductance activity (which represent the physiological activity of participant through the entire block) and subjective scores of anxiety reported by participants at the end of each block. This supplementary document provides detailed results for all the analyses reported in the main text (Descriptive Statistics, Repeated Measures ANOVA, Unilateral Paired Samples T-Test, Post Hoc Comparisons and One Sample T-Test Against Zero)

Experiment 1 – Supplementary results

Skin Conductance Level

Table S1. Within Subjects Effects of Repeated Measures ANOVA (Condition & Time) on SCL

	Sphericity Correction	Sum of Squares	df	Mean Square	F	p	η^2
Condition	None	25.164	1.000	25.164	23.809	< .001	0.488
	Greenhouse-Geisser	25.164	1.000	25.164	23.809	< .001	0.488
Residual	None	26.423	25.000	1.057			
	Greenhouse-Geisser	26.423	25.000	1.057			
Time	None	44.703	4.000	11.176	18.365	< .001	0.423
	Greenhouse-Geisser	44.703	3.401	13.144	18.365	< .001	0.423
Residual	None	60.854	100.000	0.609			
	Greenhouse-Geisser	60.854	85.025	0.716			
Condition ✻ Time	None	5.118 [a]	4.000 [a]	1.279 [a]	1.784 [a]	0.138 [a]	0.067
	Greenhouse-Geisser	5.118 [a]	2.866 [a]	1.786 [a]	1.784 [a]	0.160 [a]	0.067
Residual	None	71.737	100.000	0.717			
	Greenhouse-Geisser	71.737	71.658	1.001			

Note. Type III Sum of Squares

[a] Mauchly's test of sphericity indicates that the assumption of sphericity is violated ($p < .05$).

Table S2. Descriptive Statistics (ANOVA) - SCL

Condition	Time	Mean	SD	N
Threat	1	1.297	0.805	26
	2	0.304	0.711	26
	3	0.296	0.787	26
	4	0.010	0.710	26
	5	-0.352	0.749	26
Safe	1	0.255	1.275	26
	2	-0.395	0.529	26
	3	-0.413	0.763	26
	4	-0.451	0.670	26
	5	-0.552	0.765	26

Table S3. Unilateral Paired Samples T-Test *(Condition)* for SCL

						95% CI for Mean Difference			95% CI for Cohen's d	
Condition		**t**	**df**	**p**	**Mean Difference**	**SE Difference**	**Lower**	**Upper**	**Cohen's d**	**Lower**	**Upper**
Threat	- Safe	4.879	25	< .001	0.622	0.128	0.404	∞	0.957	0.558	∞

Note. Student's t-test.

Note. All tests, hypothesis is measurement one greater than measurement two.

Table S4. Descriptive Statistics (T-Test) - SCL

Condition	N	Mean	SD	SE
Threat	26	0.311	0.325	0.064
Safe	26	-0.311	0.325	0.064

Subjective reports of Anxiety

Table S5. Within Subjects Effects of Repeated Measures ANOVA *(Condition & Time)* on Subjective Anxiety

	Sphericity Correction	Sum of Squares	df	Mean Square	F	p	η^2
Condition	None	13753.4	1.000	13753.39	15.107	< .001	0.377
	Greenhouse-Geisser	13753.4	1.000	13753.39	15.107	< .001	0.377
Residual	None	22760.3	25.000	910.41			
	Greenhouse-Geisser	22760.3	25.000	910.41			
Time	None	1046.9 [a]	4.000 [a]	261.74 [a]	1.841 [a]	0.127 [a]	0.069
	Greenhouse-Geisser	1046.9 [a]	2.434 [a]	430.05 [a]	1.841 [a]	0.159 [a]	0.069
Residual	None	14217.7	100.000	142.18			
	Greenhouse-Geisser	14217.7	60.862	233.61			
Condition ✻ Time	None	793.0	4.000	198.24	2.143	0.081	0.079
	Greenhouse-Geisser	793.0	2.883	275.05	2.143	0.105	0.079
Residual	None	9252.8	100.000	92.53			
	Greenhouse-Geisser	9252.8	72.075	128.38			

Note. Type III Sum of Squares

[a] Mauchly's test of sphericity indicates that the assumption of sphericity is violated ($p < .05$).

Table S6. Descriptive Statistics (ANOVA) - Subjective Anxiety

Condition	Time	Mean	SD	N
Threat	1	43.00	23.09	26
	2	39.12	24.44	26
	3	37.69	23.31	26
	4	36.73	25.37	26
	5	32.96	25.68	26
Safe	1	22.35	19.78	26
	2	25.81	20.15	26
	3	25.27	17.68	26
	4	20.92	17.20	26
	5	22.42	17.94	26

Table S7. Unilateral Paired Samples T-Test (Condition) for Subjective Anxiety

							95% CI for Mean Difference			95% CI for Cohen's d	
Condition		t	df	p	Mean Difference	SE Difference	Lower	Upper	Cohen's d	Lower	Upper
Threat	- Safe	3.887	25	< .001	14.55	3.743	8.153	∞	0.762	0.388	∞

Note. Student's t-test.
Note. All tests, hypothesis is measurement one greater than measurement two.

Table S8. Descriptive Statistics (T-Test) - Subjective Anxiety

Condition	N	Mean	SD	SE
Threat	26	37.90	21.76	4.268
Safe	26	23.35	16.72	3.278

Intra-individual Correlation

Table S9. One Sample T-Test for Intra-individual Correlation (r to z Fischer)

					95% CI for Mean Difference			95% CI for Cohen's d	
	t	df	p	Mean Difference	Lower	Upper	Cohen's d	Lower	Upper
Correlation	2.855	25	0.009	0.256	0.071	0.441	0.560	0.141	0.969

Note. Student's t-test.

Table S10. Descriptive Statistics (T-Test) – Intra-individual Correlation

	N	Mean	SD	SE
Correlation	26.00	0.256	0.458	0.090

Experiment 2– Supplementary results

Skin conductance level (SCL)

Table S11. Within Subjects Effects of Repeated Measures ANOVA *(Condition & Time)* on SCL

	Sum of Squares	df	Mean Square	F	p	η²
Condition	28.974	1	28.974	35.305	< .001	0.525
Residual	26.262	32	0.821			
Time	28.612	4	7.153	8.026	< .001	0.201
Residual	114.073	128	0.891			
Condition ✻ Time	4.397	4	1.099	1.486	0.210	0.044
Residual	94.682	128	0.740			

Note. Type III Sum of Squares

Table S12. Descriptive Statistics (ANOVA) - SCL

Condition	Time	Mean	SD	N
Threat	1	0.920	0.972	33
	2	0.548	0.718	33
	3	0.256	0.723	33
	4	-0.200	0.792	33
	5	-0.042	1.038	33
Safe	1	-5.102e -4	0.974	33
	2	-0.187	0.790	33
	3	-0.307	0.901	33
	4	-0.429	0.838	33
	5	-0.558	0.754	33

Table S13. Unilateral Paired Samples T-Test (Condition) for SCL

						95% CI for Mean Difference			95% CI for Cohen's d	
Condition		t	df	p	Mean Difference	SE Difference	Lower	Upper	Cohen's d	Lower	Upper
Threat	- Safe	5.942	32	< .001	0.593	0.100	0.424	∞	1.034	0.672	∞

Note. Student's t-test.

Note. All tests, hypothesis is measurement one greater than measurement two.

Table S14. Descriptive Statistics (T-Test) - SCL

Condition	N	Mean	SD	SE
Threat	33	0.296	0.286	0.050
Safe	33	-0.296	0.286	0.050

Subjective Anxiety

Repeated Measures ANOVA on Subjective Anxiety previously described on the main manuscript revealed an interaction between Condition and Time. This interaction is graphically represented in Figure S1.

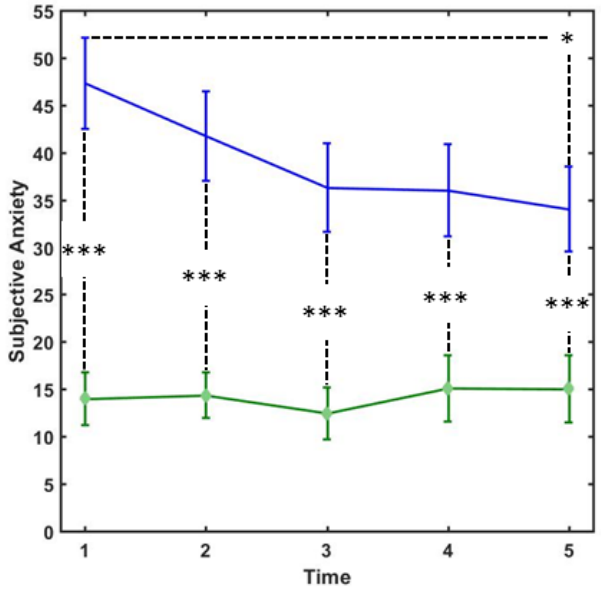

Figure S1: Mean of Subjective anxiety during each Threat and Safe blocks (+/- SEM). *** = p < 0.001; ** = p < 0.01; * = p < 0.05; n.s. = p > 0.05.

Table S15. Within Subjects Effects of Repeated Measures ANOVA (Condition & Time) on Subjective Anxiety

	Sphericity Correction	Sum of Squares	df	Mean Square	F	p	η^2
Condition	None	51113	1.000	51113.5	47.844	< .001	0.599
	Greenhouse-Geisser	51113	1.000	51113.5	47.844	< .001	0.599
Residual	None	34187	32.000	1068.3			
	Greenhouse-Geisser	34187	32.000	1068.3			
Time	None	1901 [a]	4.000 [a]	475.1 [a]	2.472 [a]	0.048 [a]	0.072
	Greenhouse-Geisser	1901 [a]	2.324 [a]	817.7 [a]	2.472 [a]	0.083 [a]	0.072
Residual	None	24603	128.000	192.2			
	Greenhouse-Geisser	24603	74.377	330.8			
Condition ✻ Time	None	2117	4.000	529.2	4.046	0.004	0.112
	Greenhouse-Geisser	2117	3.311	639.2	4.046	0.007	0.112
Residual	None	16739	128.000	130.8			
	Greenhouse-Geisser	16739	105.958	158.0			

Note. Type III Sum of Squares

[a] Mauchly's test of sphericity indicates that the assumption of sphericity is violated (p < .05).

Table S16. Descriptive Statistics (ANOVA) – Subjective Anxiety

Condition	Time	Mean	SD	N
Threat	1	47.30	26.79	33
	2	41.73	25.79	33
	3	36.30	26.05	33
	4	36.03	26.69	33
	5	34.03	25.58	33
Safe	1	14.00	15.38	33
	2	14.36	13.21	33
	3	12.45	14.99	33
	4	15.09	19.11	33
	5	15.03	19.40	33

Table S17. Unilateral Paired Samples T-Test (Condition) for Subjective Anxiety

							95% CI for Mean Difference			95% CI for Cohen's d	
Condition		t	df	p	Mean Difference	SE Difference	Lower	Upper	Cohen's d	Lower	Upper
Threat	- Safe	6.917	32	< .001	24.89	3.599	18.80	∞	1.204	0.819	∞

Note. Student's t-test.

Note. All tests, hypothesis is measurement one greater than measurement two.

Table S18. Descriptive Statistics (T-Test) – Subjective Anxiety

Condition	N	Mean	SD	SE
Threat	33	39.08	23.21	4.041
Safe	33	14.19	12.80	2.229

Table S19. Post Hoc Comparisons - Subjective Anxiety during Threat Blocks

		Mean Difference	SE	t	p_{bonf}
1	2	5.576	2.889	1.930	0.625
	3	11.000	4.082	2.695	0.111
	4	11.273	3.758	2.999	0.052
	5	13.273	3.892	3.411	0.018
2	3	5.424	2.421	2.240	0.321
	4	5.697	2.351	2.424	0.212
	5	7.697	3.135	2.455	0.197
3	4	0.273	3.259	0.084	1.000
	5	2.273	4.176	0.544	1.000
4	5	2.000	2.768	0.722	1.000

Table S20. Post Hoc Comparisons - Subjective Anxiety during Safe Blocks

		Mean Difference	SE	t	p_{bonf}
1	2	-0.364	2.711	-0.134	1.000
	3	1.545	2.663	0.580	1.000
	4	-1.091	3.754	-0.291	1.000
	5	-1.030	3.884	-0.265	1.000
2	3	1.909	2.377	0.803	1.000
	4	-0.727	3.053	-0.238	1.000
	5	-0.667	3.195	-0.209	1.000
3	4	-2.636	2.590	-1.018	1.000
	5	-2.576	2.311	-1.115	1.000
4	5	0.061	1.920	0.032	1.000

Table S21. One Sample T-Test Subjective Anxiety (Threat minus Safe) across Time

					95% CI for Mean Difference			95% CI for Cohen's d	
Time	t	df	p	Mean Difference	Lower	Upper	Cohen's d	Lower	Upper
1	7.090	32	< .001	33.30	25.35	∞	1.234	0.845	∞
2	5.924	32	< .001	27.36	19.54	∞	1.031	0.669	∞
3	5.994	32	< .001	23.85	17.11	∞	1.043	0.680	∞
4	4.779	32	< .001	20.94	13.52	∞	0.832	0.493	∞
5	4.476	32	< .001	19.00	11.81	∞	0.779	0.446	∞

Note. Student's t-test.

Intra-individual Correlation

Table S22. One Sample T-Test for Intra-individual Correlation (r to z Fischer)

					95% CI for Mean Difference			95% CI for Cohen's d	
	t	df	p	Mean Difference	Lower	Upper	Cohen's d	Lower	Upper
Correlation	4.703	32	< .001	0.354	0.201	0.508	0.819	0.419	1.209

Note. Student's t-test.

Table S23. Descriptive Statistics (T-Test) – Intra-individual Correlation

	N	Mean	SD	SE
Correlation	33.00	0.354	0.433	0.075