**Supplementary Materials**

**Exclusion criteria**

Exclusion criteria included a history of childhood trauma, a PTSD diagnosis prior to the index trauma, neurological or major medical illness, psychotic, bipolar, or autism spectrum disorders, sleep disorders other than insomnia disorder, current substance abuse or dependence, anxiolytic or sleep medications, as well as individuals consuming more than 5 beverages containing caffeine a day.

**Physiological measurements**

HR, skin conductance level (SCL), and orbicularis oculi EMG were continuously monitored using the Biopac MP150 system (Biopac Systems, Inc., Goleta, CA) with Biopac amplifiers (HR, EMG), transducer (SCR), electrodes and AcqKnowledge 4.1.5 data-acquisition software. Stimuli were timed and triggered using Superlab 4.5 (Cedrus Corp., San Pedro, CA) which simultaneously transmitted event marks thereby allowing precise synchronization of each stimulus onset with the ongoing physiological recording. ECG was recorded at 2000 Hz using an ECG100C amplifier and two EL503 Ag/AgCl 11-mm disposable electrodes placed below the right clavicle and beneath the left eighth rib. Heart inter-beat (R to R) intervals were converted to heart rate (HR). SCL was recorded at 200 Hz using the EDA100C transducer and two EL507 disposable 11-mm, Ag/AgCl sensors filled with isotonic paste attached 14 mm apart on the hypothenar surface of the non-dominant hand. Orbicularis oculi EMG was recorded at 2000 Hz using an EMG100C amplifier and two EL254S Ag-AgCl 4-mm shielded electrodes filled with CG04 Signa Gel placed over the left orbicularis muscle. Prior to subtraction, EMG was filtered with a 90 Hz high-pass FIR filter, rectified and integrated over a 10-ms time constant. HR, SC, and EMG responses were square-root transformed to reduce heteroscedasticity. When the untransformed response was negative, the negative sign was retained after calculating the square root of its absolute value (Orr et al., 2000). HR acceleration responses (HRR) to the loud tones were calculated by subtracting the mean HR for the 1 s preceding tone onset from the highest HR occurring in the 1-4 s following tone offset, skin conductance responses (SCR) were calculated by subtracting the mean SCL during the 1 s before tone onset from the maximum SCL during the 1-4 s following tone offset, and orbicularis oculi EMG responses (EMGR) were calculated by subtracting the mean EMG level during the 1 sec prior to tone onset from the maximum EMG occurring during the 40-200 ms following tone offset (Buhlmann et al., 2007). Mean startle response scores for HRR, SCR, and EMGR were calculated as the average of the responses to the first 15 tones. Electrocardiogram (ECG) data from the AcqKnowledge files were loaded into Kubios HRV premium software (Kuopio, Finland) in order to calculate resting heart rate variability (HRV). Before calculating any HRV measures, the ECG was inspected in order to identify potential artifacts, arrhythmia, or ectopic beats, such as premature ventricular contractions.

References:

Buhlmann, U., Wilhelm, S., Deckersbach, T., Rauch, S. L., Pitman, R. K., & Orr, S. P. (2007). Physiologic responses to loud tones in individuals with obsessive-compulsive disorder. *Psychosomatic Medicine*, *69*(2), 166–172. https://doi.org/10.1097/PSY.0b013e31802f2799

Orr, S. P., Metzger, L. J., Lasko, N. B., Macklin, M. L., Peri, T., & Pitman, R.K. (2000). De novo conditioning in trauma-exposed individuals with and without posttraumatic stress disorder. *Journal of Abnormal Psycholgy*, *109*, 290-298.

**Sample nightmare characteristics**

*Nightmare characteristics for the total sample and the groups of participants with PTSD, with frequent posttraumatic nightmares, and with frequent nontraumatic nightmares.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Total sample** **(N = 122)** | **PTSD** **(n = 59)** | **PTNM** **(n = 26)** | **NTNM** **(n = 22)** |
| Frequency measures | M ± SD | Range | M ± SD | Range | M ± SD | Range | M ± SD | Range |
| Nightmares  | 2.61 ± 2.46 | 0, 11 | 3.61 ± 2.80 | 0, 11 | 5.73 ± 2.34 | 3, 11 | 3.50 ± 1.85 | 2, 10 |
| NTNM freq. | 1.02 ± 1.34 | 0, 7 | 1.24 ± 1.60 | 0, 7 | 1.27 ± 1.54 | 0, 5 | 2.77 ± 1.45 | 2, 7 |
| PTNM freq. | 0.85 ± 1.61 | 0, 11 | 1.32 ± 1.86 | 0, 11 | 3.31 ± 2.02 | 2, 11 | 0.23 ± 0.43 | 0, 1 |
| Replicative  | 0.20 ± 0.78 | 0, 7 | 0.34 ± 1.06 | 0, 7 | 0.88 ± 1.51 | 0, 7 |  0 ± 0 | 0, 0 |
| Mixed  | 0.65 ± 1.14 | 0, 5 | 0.98 ± 1.24 | 0, 4 | 2.42 ± 1.27 | 0, 5 | 0.23 ± 0.43 | 0, 1 |

*Note.* The groups shown in this table represent alternate ways of dichotomizing the total sample and the PTSD and nightmare groups are not mutually exclusive.Participants who reported both frequent posttraumatic and nontraumatic nightmares were assigned to the more severe PTNM group. M = mean, SD = standard deviation, PTNM = at least one posttraumatic nightmare / week, NTNM = at least one nontraumatic nightmare / week, PTNM freq. = posttraumatic nightmare frequency, NTNM freq. = nontraumatic nightmare frequency.