Supplemental Material:

Fear and Anger Prime Effects on Cognitive Performance:

The Role of Prime Visibility

Supplemental Methods

Apparatus and Physiological Measures

Impedance cardiogram (ICG) and electrocardiogram (ECG) signals were noninvasively measured (sample rate 1000 Hz) with a Cardioscreen 1000 system (medis, Ilmenau, Germany) to assess heart rate HR and cardiac pre-ejection period (PEP). Four pairs of electrodes (Ag/AgCl, Medis, Ilmenau, Germany) were placed on the left and right side of the participants' neck and on the left and right middle axillary line at the height of the xiphoid. However, in contrast to previous studies on the effects of masked affective stimuli on effort mobilization of our lab, PEP and HR could not be analyzed in the present experiment, because of a technical problem: the markers that defined the start and end of the baseline and task periods were misplaced in the experimental software program. Therefore, we could not analyze PEP.

We oscillometrically assessed SBP and DBP in 1-min intervals with a Dinamap ProCare monitor (GE Healthcare, Milwaukee, WI). The blood pressure cuff was placed over the brachial artery above the elbow of participant's non-dominant arm. Given that we aimed

at assessing HR continuously with the ICG monitor, the HR values of the blood pressure monitor were not registered.

Supplemental Results

Blood Pressure Baselines

Repeated measures ANOVAs of the 1-min SBP and DBP values of the habituation period revealed significant time main effects on both indices, $Fs(7,574) > 12.31$, $ps < .001$, $\eta^2 > 0.13$, reflecting blood pressure at the beginning of the habituation period. HSD Tukey tests revealed that the last three minutes for SBP and DBP ($ps > .405$) did not differ significantly and showed high internal consistency (Cronbach's $\alpha s > .92$). We then constituted blood pressure baseline values of the averages of the last three minutes (Table S1). The baseline values did not significantly differ between the experimental conditions ($ps > .312$).

Table S1. Cell means and standard errors (in brackets) of cardiovascular baseline scores.

	Suboptimal		Optimal	
	Fear primes	Anger primes	Fear primes	Anger primes
SBP	102.33 (2.14)	104.30 (1.85)	102.10 (1.74)	104.07 (1.93)
DBP	57.36 (1.19)	59.58 (1.05)	59.28 (1.38)	59.19 (1.48)

Note: SBP = systolic blood pressure (in mmHg), DBP = diastolic blood pressure (in mmHg).

Blood Pressure Reactivity

We averaged the five 1-min values of SBP and DBP assessed during task performance (Cronbach's $\alpha s \geq .93$) and subtracted the baseline values from them to create performance-related reactivity scores. Preliminary ANCOVAs, including the baseline scores as covariates, revealed a significant association between baseline and reactivity scores of DBP, $F(1,78) = 8.32$, $p = .005$, $\eta^2 = .09$. The baseline-reactivity score association was non-significant for

SBP ($p > .926$). Consequently, we adjusted the DBP reactivity scores with regard to the baselines to avoid biases due to carry-over or initial values effects.

As visible in Table S2, blood pressure reactivity was modest in general and a 2 x 2 ANOVA of SBP reactivity revealed no significant effects (ps > .682). Likewise, the ANCOVA of DBP reactivity revealed neither significant main effects (ps > .452), nor a significant interaction, $F(1,78) = 2.97$, $p = .089$, $\eta^2 = .04$, though the reactivity patterns of SBP and DBP roughly corresponds to that of response accuracy reported in the main text.

Supplemental Table 2. Cell means and standard errors (in brackets) of blood pressure reactivity scores.

	Suboptimal		Optimal	
	Fear primes	Anger primes	Fear primes	Anger primes
SBP	2.04 (0.63)	2.46 (0.70)	2.19 (0.63)	2.11 (0.41)
DBP	1.18 (0.61)	1.42 (0.65)	1.68 (0.50)	0.27 (0.59)

Note: SBP = systolic blood pressure (in mmHg), DBP = diastolic blood pressure (in mmHg).