

## Supplementary Materials for

### **Testosterone biases the amygdala toward social threat approach**

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Fig. S1. Contrast estimates for the left amygdala cluster during approach and avoidance of angry faces in each condition.

Table S1. Means (SE) of questionnaire scores.

Methods and Results. Motivation-specific effects of testosterone during threat approach and avoidance within the left amygdala.

References (42–46)

## Supplementary Materials

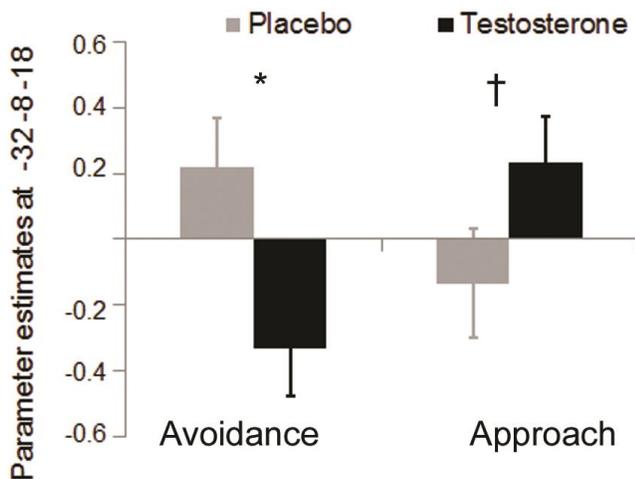
**Table S1.** Means (SE) of questionnaire scores. *P* values indicate differences between substance groups.

	Placebo	Testosterone	<i>P</i> -value
<b>NEO-FFI</b>			
Neuroticism	32.2 (1.4)	31.0 (1.3)	0.53
Extraversion	43.2 (1.6)	44.4 (0.9)	0.43
Openness	37.3 (1.2)	40.3 (1.2)	0.10
Agreeableness	45.3 (0.9)	46.4 (0.9)	0.38
Conscientiousness	42.4 (1.4)	42.4 (1.4)	0.63
<b>BIS-BAS</b>			
BAS-Drive	12.5 (0.4)	12.2 (0.4)	0.55
BAS-Fun	11.4 (0.5)	12.2 (0.4)	0.22
BAS-Reward	17.6 (0.2)	17.5 (0.4)	0.94
BIS	21.5 (0.5)	21.2 (0.8)	0.78
STAI	46.1 (0.5)	46.0 (0.5)	0.96
IRI	60.6 (1.9)	63.4 (1.9)	0.30
PRF Dominance	-1.8 (0.6)	-1.4 (0.8)	0.72

*Note.* NEO-FFI = NEO Five-Factor-Inventory (42), BIS = Behavioral inhibition system (43), BAS = Behavioral activation system (43), STAI = State Trait Anxiety Inventory (44), IRI = Interpersonal Reactivity Index (45), PRF = Personality Research Form (46)

**Methods and Results S1.** Motivation-specific effects of testosterone during threat approach and avoidance within the left amygdala.

Parameter estimates were extracted from the activation cluster within the left amygdala (coordinates: -32 -8 -18;  $z$ -value = 2.58;  $P_{uncorr}$  = 0.005) using a threshold of  $P_{uncorr}$  < 0.01. Post hoc statistical analyses in SPSS revealed the same pattern as for the right amygdala, with a Substance x Movement interaction for angry faces (Fig. S1;  $F_{1,52}$  = 5.77,  $P$  = 0.02, partial  $\eta^2$  = .10). Compared to placebo, testosterone administration increased left amygdala activity during approach trials at trend level ( $F_{1,52}$  = 2.81,  $P$  = 0.10, partial  $\eta^2$  = .05), and decreased it during avoidance trials ( $F_{1,52}$  = 7.11,  $P$  = 0.01, partial  $\eta^2$  = .12). In addition, left amygdala activity significantly differed between approach and avoidance of angry faces after testosterone administration ( $F_{1,25}$  = 5.04,  $P$  = 0.034, partial  $\eta^2$  = .17), but not after placebo ( $F_{1,27}$  = 1.54,  $P$  = 0.23, partial  $\eta^2$  = .05).



**Fig. S1.** Contrast estimates for the left amygdala cluster during approach and avoidance of angry faces in each condition. Error bars represent SEM. †  $P$  = 0.1, \*  $P$  < 0.05.