

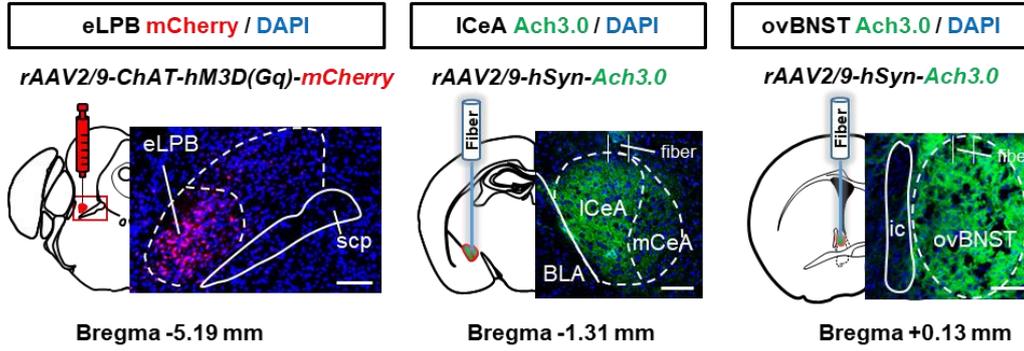
## **Supplementary figures and figures legends**

**Figure S1.** Viral validation of functional innervation experiment.

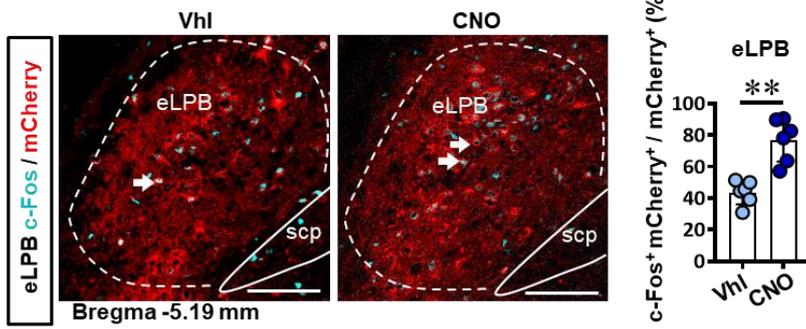
**Figure S2.** METH-primed reinstatement of CPP in male mice.

Figure S1

A

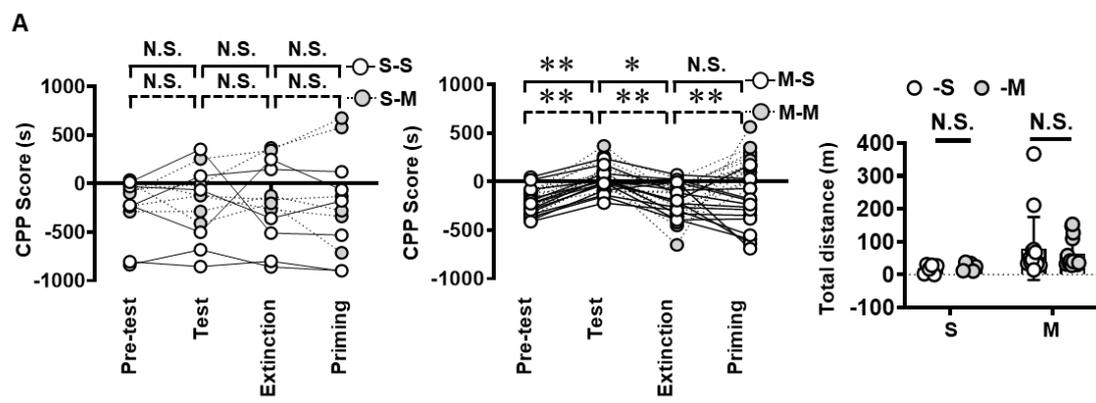


B



**Figure S1. Viral validation of functional innervation experiment. A** Representative image of *rAAV2/9-ChAT-hM3D(Gq)-mCherry* injection sites in the eLPB and *rAAV2/9-hSyn-Ach3.0* injection sites in the ICeA and ovBNST of WT mouse. Scale bar, 100  $\mu$ m. **B** Representative images and the percentage of c-Fos-positive neurons on mCherry-transfected neurons in the eLPB. Two-tailed unpaired t test.  $n = 6$  mice per group.  $t_{(10)} = 5.190$ ,  $p = 0.0004$ . \*\*  $p < 0.01$  vs Vhl. Scale bar, 100  $\mu$ m.

Figure S2



**Figure S2. METH-primed reinstatement of CPP in male mice.** A CPP scores during the pre-test, CPP test, extinction and priming in S-S and S-M group male mice (left) or in M-S and M-M group male mice (middle). Two-way ANOVA with Sidak's multiple comparisons test. S group, n = 6 mice per group.  $F_{(3, 40)} = 0.1837$ ,  $p = 0.9069$ ; S-S group priming,  $t = 0.2338$ ,  $p > 0.9999$  vs extinction; S-M group priming,  $t = 0.1149$ ,  $p > 0.9999$  vs extinction. M group, n = 14 mice per group.  $F_{(3, 104)} = 14.62$ ,  $p < 0.0001$ ; M-S group priming,  $t = 2.093$ ,  $p = 0.2111$  vs extinction; M-M group priming,  $t = 6.453$ ,  $p < 0.0001$  vs extinction. Total distance traveled in CPP apparatus during priming test (right). Two-way ANOVA with Sidak's multiple comparisons test. S group, n = 6 mice per group; M group, n = 14 mice per group.  $F_{(1, 36)} = 0.2026$ ,  $p = 0.6554$ ; S-M group,  $t = 0.1443$ ,  $p > 0.9999$  vs S-S group; M-M group,  $t = 0.6013$ ,  $p = 0.9919$  vs M-S group.

S-S, saline-primed reinstatement test following saline CPP extinction training;  
S-M, METH-primed reinstatement test following saline CPP extinction training;  
M-S, saline-primed reinstatement test following METH CPP extinction training;  
M-M, METH-primed reinstatement test following METH CPP extinction training; N.S.,  $p > 0.05$ , \*,  $p < 0.05$ , \*\*,  $p < 0.01$ .