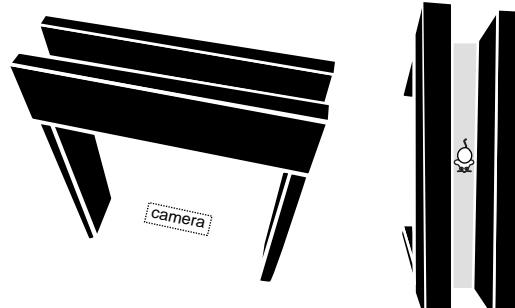


Figure S1

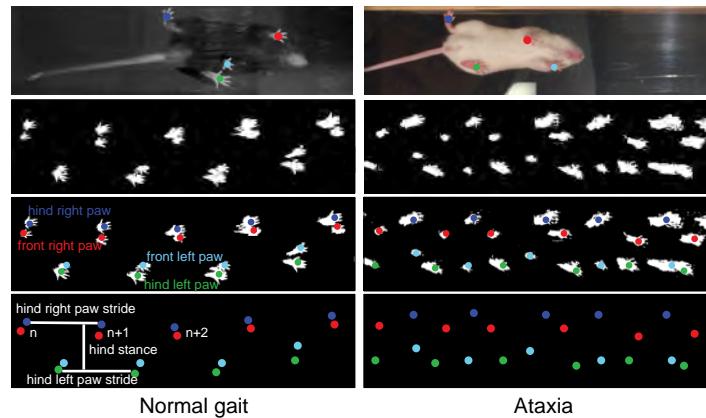
A

Gait setup



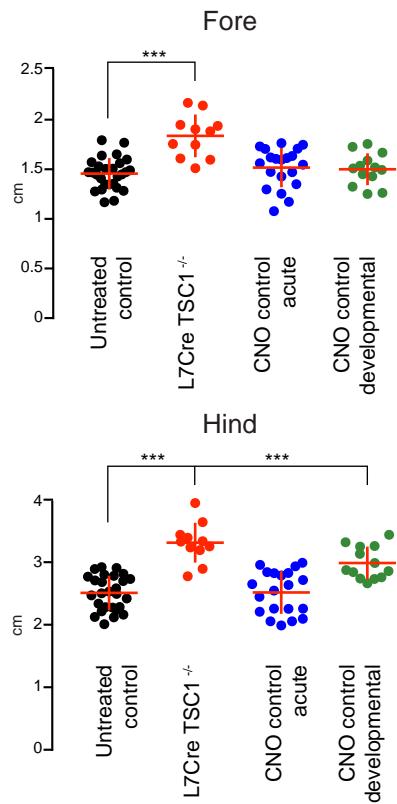
B

DREADD mouse



C

Stance controls



D

Stance experimental groups

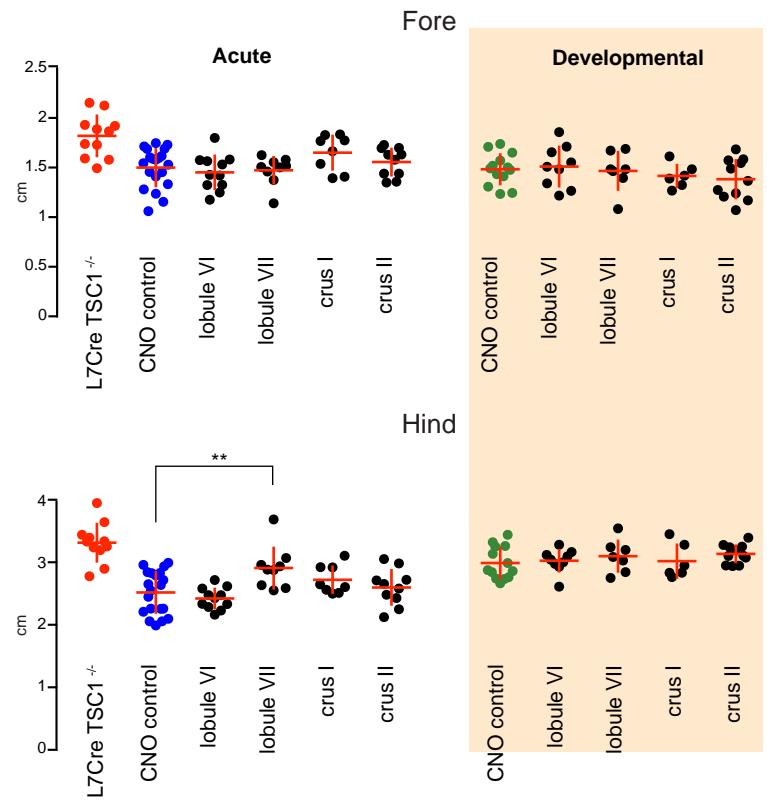


Figure S2

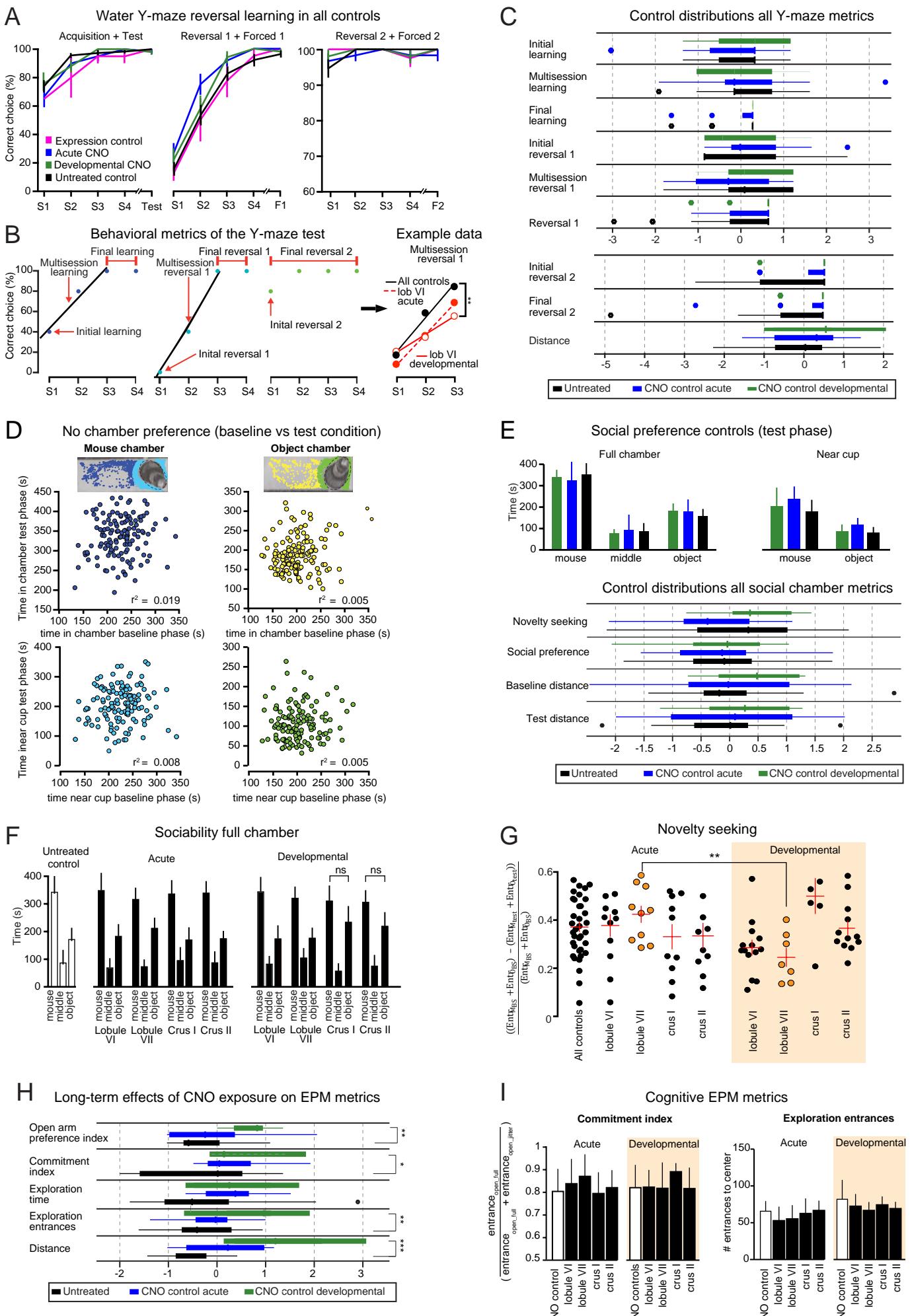


Figure S3

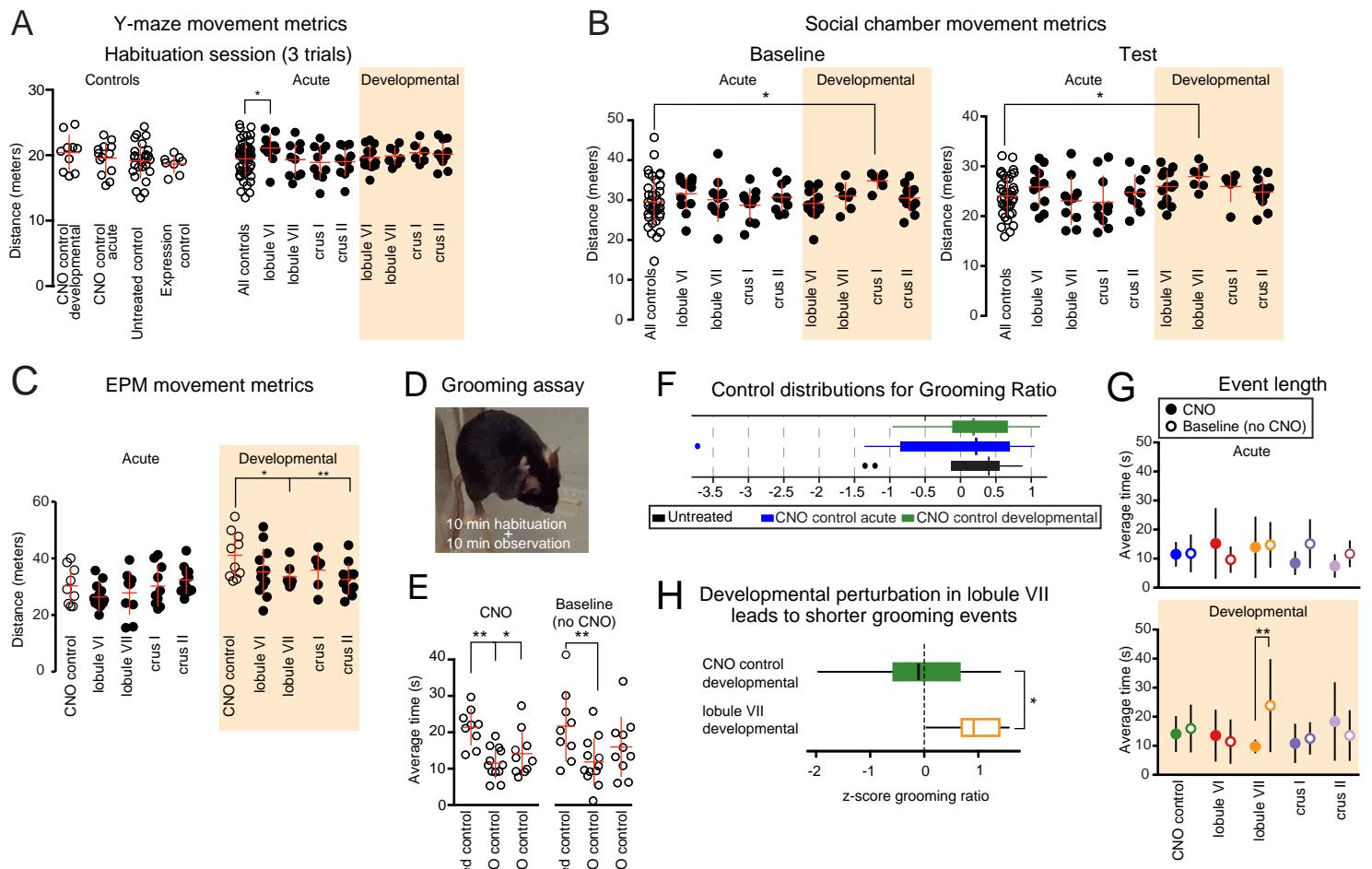


Figure S4

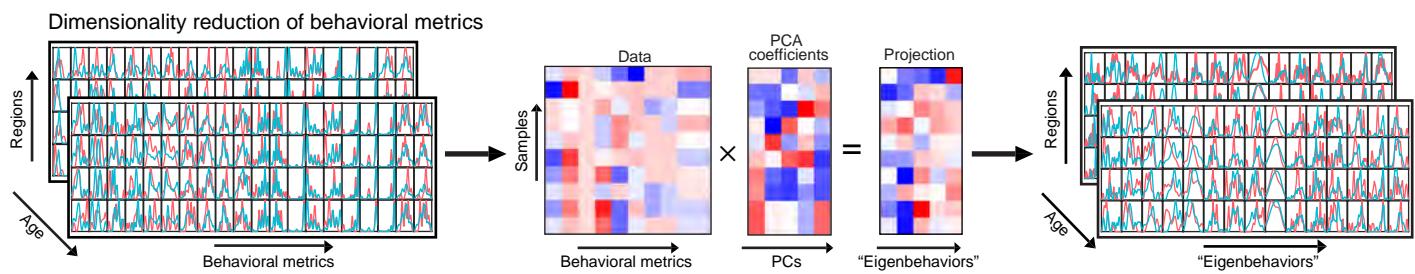


Figure S5

Table S1

Experimental group	Injection Site	Behavioral Assays					
		Grooming	Social chamber	Y-maze	Elevated Plus Maze	Gait	Eyeblink
Adult	Lobule VI	12	12	12	12	12	12* (8)
	Lobule VII	10	10	10	10	10	-
	Crus I	10	10	10	10	10	8
	Crus II	11	11	11	11	11	7* (6)

*eyeblink zone mice = 9

Developmental	Lobule VI	13	13	13	13	13	9* (6)
	Lobule VII	8	8	8	8	8	-
	Crus I	7	7	7	7	7	7* (6)
	Crus II	12	12	12	12	12	3

*eyeblink zone mice = 4

Controls	Type						
Adult	DREADDs (eyeblink zone) + saline injections	-	-	-	-	-	5
	Saline i.p. controls	9	9	9	9	9	-
	CNO controls	10	10	10	10	10	9
	No treatment controls	8	8	17	18	18	16
	GCaMP6f injections + CNO	-	-	8	-	-	-
Developmental	CNO controls	10	10	10	10	10	-

Table S2: Long-distance Cerebellar Projections to Neocortex

Region	Injection site											
	Crus I								Lobule VI			
	60 hour incubation period		80 hour incubation period		60 hour incubation period		80 hour incubation period		Animal #5		Animal #6	
	#	%	#	%	#	%	#	%	#	%	#	%
Motor Cortex	54	90,0	14	20,6	24	47,1	24	34,8	32	43,2	50	67,6
Visual Cortex	11	18,3	3	4,4	7	13,7	2	2,9	12	16,2	6	8,1
Somatosensory Cortex	34	56,7	13	19,1	28	54,9	20	29,0	32	43,2	30	40,5
Orbital Frontal Cortex	28	46,7	2	2,9	4	7,8	6	8,7	12	16,2	33	44,6
Retrosplenial Area	8	13,3	1	1,5	0	0	5	7,2	2	2,7	5	6,8
Parietal Association Cortex	16	26,7	1	1,5	0	0	0	0	3	4,1	9	12,2
Agranular Insular Area	4	6,7	0	0	0	0	0	0	1	1,4	1	1,4
Prelimbic Area	7	11,7	1	1,5	0	0	3	4,3	7	9,5	7	9,5
Anterior Cingular Cortex	6	10,0	1	1,5	2	3,9	7	10,1	6	8,1	8	10,8
Infralimbic Area	0	0	0	0	2	3,9	2	2,9	1	1,4	1	1,4
No label in cortex	0	0	40	58,8	9	17,6	19	27,5	15	20,3	12	16,2
Total amount of slides	60		68		51		69		74		74	
												36

"#" = the number of slides with expression

"%" = (#/total amount of slides)*100

*one mouse with Lobule VI injection was removed from analysis due to illness

