

Fig.	Figure experiment	Number of animals per group (F-females, M-males)	Is data distribution normal? (Shapiro-Wilk test, alpha=0.05)	Analysis	Analysis results (post-hoc results reported in figures)	P value
Ext.Data Figure 1						
Ext.Data 1a	Effects of interaction with a familiar partner on stress-induced increase in latency to retrieve rewards- raw data analysis	n=13-16 F=7-9 M=6-9	control: no control SI: no restraint: no restraint SI: no	Wilcoxon test	control control SI restraint restraint SI	P=0.9032 P=0.3396 P=0.0004 P=0.8603
	Effects of interaction with a familiar partner on stress-induced decrease in anticipatory licks to retrieve rewards- raw data analysis		control: no control SI: yes restraint: yes restraint SI: no	Wilcoxon test or paired t-test	control control SI restraint restraint SI	P=0.7869 P=0.1524 P=0.0008 P=0.7436
Ext.Data 1b	ROC curves AUC for latency and anticipatory licks	n=43 F=18 M=25	n/a	Bootstrap comparison	Mean AUC diff: 0.1567 95% CI: [0.0605, 0.2561]	P=0.0010
Ext.Data 1c	Sex differences in the effects of SI with a familiar partner on stress-induced increase in latency to retrieve rewards.	n=13-16 F=7-9 M=6-9	yes	3-way ANOVA (sex x stress x SI)	Sex: F (1, 50) = 1.056 Stress: F (1, 50) = 13.95 SI: F (1, 50) = 9.415 Sex x Stress: F (1, 50) = 2.540 Sex x SI: F (1, 50) = 0.03531 Stress x SI: F (1, 50) = 7.263 Sex x Stress x SI: F(1, 50) = 1.153	P=0.3091 P=0.0005 P=0.0035 P=0.1173 P=0.8517 P=0.0096 P=0.2881
Ext.Data 1d	Effects of stress and SI on self-grooming.	n=13-16 F=7-9 M=6-9	yes	2-way ANOVA (stress x SI)	Stress x SI: F (1, 54) = 3.400 stress: F (1, 54) = 88.73 SI: F (1, 54) = 6.145	P=0.0707 p<0.0001 P=0.0163
Ext.Data 1e	Effects of restraint on body sniffing in subject and partner mice.	n=13-16 F=7-9 M=6-9	yes	one way ANOVA	F (3, 55) = 8.881	P<0.0001
	Effects of restraint on anogenital sniffing in subject and partner mice.		no	Kruskal-Wallis test	Kruskal-Wallis statistic = 35.82	P<0.0001
Ext.Data 1f	Familiar object habituation	n=15 F=6 M=9	yes	Mixed effects model (REML)	F (1.818, 24.24) = 34.11	P<0.0001
Ext.Data 1g	Effects of interaction with a familiar object on stress-induced increase in latency to retrieve rewards- raw data analysis	n=15 F=6 M=9	no	Friedman test	Freidman statistic = 16.76	P=0.0008
Ext.Data 1h	Effects of interaction with a familiar object on anticipatory licks	n=15 F=6 M=9	yes	Mixed effects model (REML)	F (1.354, 18.96) = 1.140	P=0.3191
Ext.Data 1i	Effects of interaction with a novel partner on stress-induced increase in latency to retrieve rewards- raw data analysis	n=13 F=6 M=7	no	Friedman test	Freidman statistic = 11.95	P=0.0075
Ext.Data 1j	Effects of interaction with a novel partner on anticipatory licks	n=13 F=6 M=7	yes	Mixed effects model (REML)	F (1.981, 23.77) = 0.3447	P=0.7099
Ext.Data 1l	Linear regression between body sniffing behavior in stressed subjects interacting with familiar unstressed partners.	n=16 F=8 M=8	n/a	Linear regression	R square = 0.3839 Slope: F (1, 14) = 8.725	P=0.0105
Ext.Data 1m	Linear regression between body sniffing behavior in unstressed partners interacting with familiar stressed subjects.	n=16 F=8 M=8	n/a	Linear regression	R square = 0.01397 Slope: F (1, 14) = 0.1984	P=0.6628
Ext.Data 1n	Linear regression between body sniffing behavior in stressed subjects interacting with novel unstressed partners.	n=13 F=6 M=7	n/a	Linear regression	R square = 0.02211 Slope: F (1, 11) = 0.2487	P=0.6278
Ext.Data 1o	Linear regression between body sniffing behavior in unstressed partners interacting with novel stressed subjects.	n=13 F=6 M=7	n/a	Linear regression	R square = 0.04219 Slope: F (1, 11) = 0.4845	P=0.5008
Ext.Data Figure 2						
Ext.Data 2a	Effects of interaction with a familiar partner on stress-induced increase in latency to retrieve rewards- raw data analysis	n=16 F=8 M=8	no	Friedman test	Freidman statistic = 16.20	P=0.0010
Ext.Data 2b	Linear regression between body sniffing behavior in unstressed partners interacting with familiar stressed subjects.	n=16 F=8 M=8	n/a	Linear regression	R square = 0.0312 Slope: F (1, 14) = 0.4514	P=0.5126
	Area under curve (AUC) during body sniffing	control SI n=128 events		Mann-Whitney test	U (15406, 15470) = 7150	P=0.3483

Ext.Data 2c	towards familiar partner in control SI and restraint SI conditions in DA cells	control SI n=120 events restraint SI n=120 events	no	One sample Wilcoxon test vs baseline	control SI restraint SI	P=0.0173 P<0.0001
Ext.Data 2d	AUC during body sniffing towards familiar partner in control SI and restraint SI conditions in GABA cells	control SI n=147 events restraint SI n=145 events	no	Mann-Whitney test	U (23464, 19314) = 8729	P=0.0075
				One sample Wilcoxon test vs baseline	control SI restraint SI	P=0.7293 P<0.0001
Ext.Data 2e	Body sniff duration during Ca ²⁺ downregulated and upregulated events in DA neurons	control SI down n=58 up=70 restraint SI down n=45 up n=75	no	Mann-Whitney test	control SI z=-2.786 restraint SI z=-3.779	P=0.0053 P=0.002
				n=7 F=3 M=4	yes	Paired t-test
Ext.Data 2f	Body sniff duration during Ca ²⁺ downregulated and upregulated events in GABA neurons	control SI down n=72 up=75 restraint SI down n=94 up n=51	no	Mann-Whitney test	control SI z=0.692 restraint SI z=3.176	P=0.4891 P=0.0015
				n=9 F=5 M=4	yes	Paired t-test
Ext.Data 2g	AUC while being subjected to body sniffing from familiar partner in control SI and restraint SI conditions in DA cells	control SI n=145 events restraint SI n=175 events	no	Mann-Whitney test	U (20136, 27759) = 10266	P=0.0555
				n=7 F=3 M=4	yes	Paired t-test
Ext.Data 2h	AUC while being subjected to body sniffing from familiar partner in control SI and restraint SI conditions in GABA cells	control SI n=158 events restraint SI n=210 events	no	Mann-Whitney test	U (26962, 31691) = 14401	P=0.8827
				n=9 F=5 M=4	yes	Paired t-test
Ext.Data 2i	AUC during anogenital sniffing towards familiar partner in control SI and restraint SI conditions in DA cells	control SI n=49 events restraint SI n=16 events	no	Mann-Whitney test	U (1593, 552) = 368	P=0.7231
				n=5 (2 mice no events in restraint SI session) F=2 M=3	yes	Paired t-test
Ext.Data 2j	AUC during anogenital sniffing towards familiar partner in control SI and restraint SI conditions in GABA cells	control SI n=53 events restraint SI n=22 events	no	Mann-Whitney test	U (1973, 877) = 542	P=0.6398
				n=7 (2 mice no events in restraint SI session) F=4 M=3	yes	Paired t-test
Ext.Data 2k	AUC while being subjected to ano-genital sniffing from familiar partner in control SI and restraint SI conditions in DA cells	control SI n=22 events restraint SI n=53 events	no	Mann-Whitney test	U (780, 2070) = 527	P=0.5212
				n=5 (2 mice no events in control SI session) F=2 M=3	no	Wilcoxon test
Ext.Data 2l	AUC while being subjected to ano-genital sniffing from familiar partner in control SI and restraint SI conditions in GABA cells	control SI n=23 events restraint SI n=74 events	no	Mann-Whitney test	U (1215, 3538) = 763	P=0.4606
				n=8 (1 mouse no events in control SI session) F=4 M=4	no	Wilcoxon test
Ext.Data 2m	AUC during body sniffing towards novel partner in control SI and restraint SI conditions in DA cells	control SI n=128 events restraint SI n=120 events	no	Mann-Whitney test	U (18978, 8283) = 5508	P=0.4352
				One sample Wilcoxon test vs baseline	control SI restraint SI	P<0.0001 P=0.0006
Ext.Data 2n	AUC during body sniffing towards novel partner in control SI and restraint SI conditions in GABA cells	control SI n=147 events restraint SI n=145 events	no	Mann-Whitney test	U (25657, 16829) = 9689	P=0.4404
				One sample Wilcoxon test vs baseline	control SI restraint SI	P<0.0001 P<0.0001

Ext.Data Figure 3

Ext.Data 3a	Effects of VTA DA activation on stress-induced increase in latency to retrieve rewards- raw data analysis	n=14 F=6 M=8	no	Friedman test	Freidman statistic = 13.46	P=0.0037
Ext.Data 3b	Effects of VTA GABA inhibition on stress-induced increase in latency to retrieve rewards- raw data analysis	n=13 F=4 M=9	yes	Mixed effects model (REML)	F (2.264, 27.17) = 14.69	P<0.0001
Ext.Data 3c	Effects of VTA DA activation on self-grooming	n=14 F=6 M=8	yes	Mixed effects model (REML)	F (1, 11) = 13.90	P=0.0033
	Effects of VTA DA activation on walking	M=8	no	Friedman test	Freidman statistic = 19.97	P<0.0001
	Effects of VTA DA activation on sitting		no	Friedman test	Freidman statistic = 16.20	P=0.0010
Ext.Data 3d	Effects of VTA GABA inhibition on self-grooming	n=13 F=4 M=9	yes	Mixed effects model (REML)	F (1.000, 12.00) = 19.64	P=0.0008
	Effects of VTA GABA inhibition on walking		no	Friedman test	Freidman statistic = 25.56	P<0.0001
	Effects of VTA GABA inhibition on sitting		no	Friedman test	Freidman statistic = 11.98	P=0.0075
Ext.Data 3e	Head exploration in body sniff behavior	n=16 F=8 M=8	yes	Paired t-test	t=1.340, df=15	P=0.2003
Ext.Data 3f	Effect of closed-loop VTA GABA inhibition on stress-induced latency to retrieve rewards-raw data	n=14 F=6 M=8	no	Friedman test	Freidman statistic = 13.86	P=0.0010
Ext.Data 3g	Effects of closed loop VTA GABA inhibition on self-grooming	n=13 F=4 M=9	no	Wilcoxon test		P=0.1937
	Effects of closed loop VTA GABA inhibition on walking		no	Wilcoxon test		P=0.7609
	Effects of closed loop VTA GABA inhibition on sitting		no	Wilcoxon test		P=0.6698
	Effects of closed loop VTA GABA inhibition on body exploration		no	Wilcoxon test		P=0.2412
Ext.Data 3h	Effect of yoked VTA GABA inhibition on stress-induced latency to retrieve rewards- raw data	n=14 F=6 M=8	no	Friedman test	Freidman statistic = 17.71	P=0.0001
Ext.Data 3i	Effects of yoked VTA GABA inhibition on self-grooming	n=13 F=4 M=9	yes	Paired t-test	t=0.4726, df=13	P=0.6443
	Effects of yoked VTA GABA inhibition on walking		yes	Paired t-test	t=1.705, df=13	P=0.1120
	Effects of yoked VTA GABA inhibition on sitting		no	Wilcoxon test		P=0.2166