Table 1: Demographics of mice tested.

Genotype	Sex	Mean age (days)	Minimum age (days)	Maximum age (days)	N
3xTg-AD	Female	296.27	154	558	11
3xTg-AD	Male	366.00	366	366	1
B6129	Female	403.00	172	756	13
B6129	Male	373.00	298	574	4

Subjects

There are 29 mice included in this study. There was no significant difference in age between the 3xTg-AD and B6129 mice (t_{27} = -1.6, p = 0.126; Table 1).
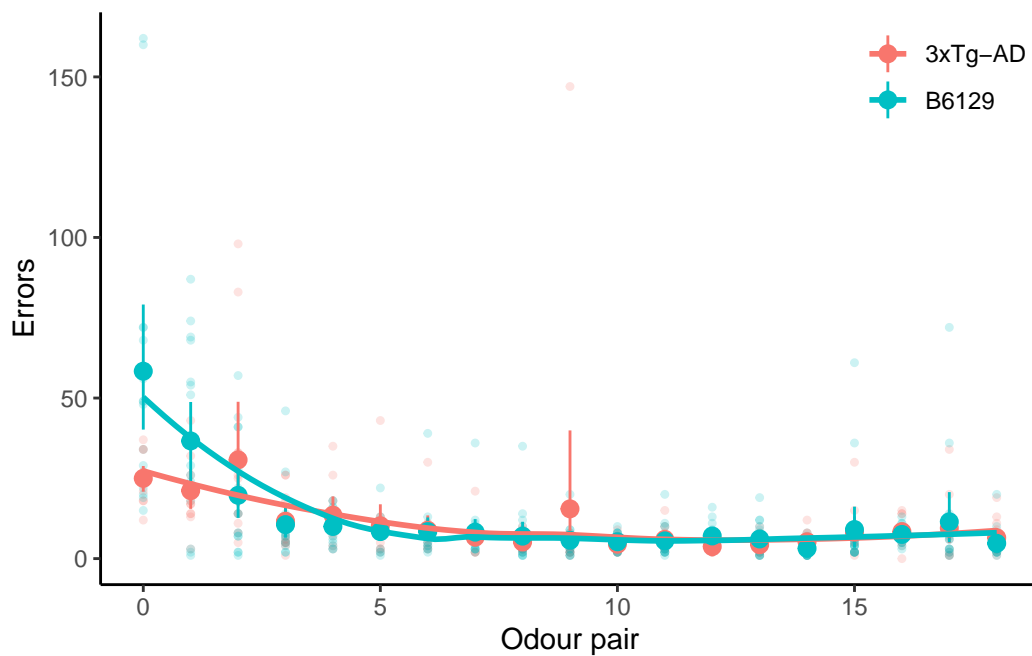
Discrimination

Figure 1: Errors (±95% CI) made by the mice at on each odour pair during the discrimination stages.

The errors made decreased as the mice advanced through the odour pairs (Figure 1). The model with effects of genotype, odour pair, and the genotype by odour pair interaction best explained the data (Table 2), this model did not differ from the null model of just an effect of odour pair (χ^2_2 = 5.5, p = 0.063).

Table 2: AICc model table for discrimination.

(Intercept)	geno	op	sex	geno:op	geno:sex	op:sex	geno:op:sex	df	logLik	AICc	delta	weight
19.06	+	-0.91		+				6	-2301.05	4614.26	0.00	0.317764605
22.80		-1.24						4	-2303.82	4615.72	1.46	0.153144298
19.09	+	-0.91	+	+				7	-2301.03	4616.27	2.01	0.116350110
21.96	+	-1.24						5	-2303.40	4616.91	2.65	0.084566372
19.39	+	-0.95	+	+		+		8	-2300.37	4617.00	2.74	0.080805467
22.81		-1.24	+					5	-2303.82	4617.76	3.50	0.055318398
19.25	+	-0.91	+	+	+			8	-2300.90	4618.08	3.82	0.047128520
19.54	+	-0.95	+	+	+	+		9	-2300.24	4618.81	4.55	0.032609824
21.99	+	-1.24	+					6	-2303.38	4618.91	4.65	0.031089398
23.16		-1.28	+			+		6	-2303.58	4619.31	5.05	0.025428744
20.09	+	-1.01	+	+	+	+	+	10	-2299.54	4619.50	5.24	0.023146139
22.35	+	-1.28	+			+		7	-2303.13	4620.47	6.21	0.014224246
22.15	+	-1.24	+		+			7	-2303.25	4620.71	6.45	0.012655018
22.51	+	-1.28	+		+	+		8	-2303.01	4622.28	8.02	0.005768862

Table 3: AICc model table for reversal.

(Intercept)	geno	op	sex	geno:op	geno:sex	op:sex	geno:op:sex	df	logLik	AICc	delta	weight
43.54	+	-2.77		+				6	-2561.64	5135.44	0.00	0.3422551191
43.05	+	-2.77	+	+				7	-2560.79	5135.80	0.36	0.2860805436
43.26	+	-2.77	+	+	+			8	-2560.74	5137.76	2.33	0.1069130402
43.15	+	-2.78	+	+		+		8	-2560.77	5137.84	2.40	0.1030972798
52.65	+	-3.73						5	-2564.79	5139.69	4.26	0.0407318702
43.36	+	-2.78	+	+	+	+		9	-2560.73	5139.81	4.38	0.0383672057
52.14	+	-3.72	+					6	-2563.93	5140.04	4.60	0.0343429108
43.85	+	-2.83	+	+	+	+	+	10	-2560.66	5141.75	6.32	0.0145550482
51.66	+	-3.68	+			+		7	-2563.88	5141.98	6.54	0.0130141429
52.35	+	-3.72	+		+			7	-2563.88	5141.99	6.55	0.0129242614
51.88	+	-3.67	+		+	+		8	-2563.83	5143.94	8.50	0.0048782383
57.44		-3.72	+					5	-2568.12	5146.36	10.92	0.0014570226
58.90		-3.72						4	-2569.70	5147.49	12.05	0.0008277816
56.95		-3.67	+			+		6	-2568.06	5148.28	12.85	0.0005555356

Reversal

The errors made decreased as the mice advanced through the odour pairs (Figure 2). The model with effects of genotype, odour pair, and the genotype by odour pair interaction best explained the data (Table 3), this model differed significantly from the null model of just an effect of odour pair ($\chi^2_2 = 16$, $p < 0.001$).

Total errors

The model with just an effect of genotype best explained the data (Table 4), this model differed significantly from the null model ($F_1 = 8.9$, $p = 0.00591$; (Figure 3)).
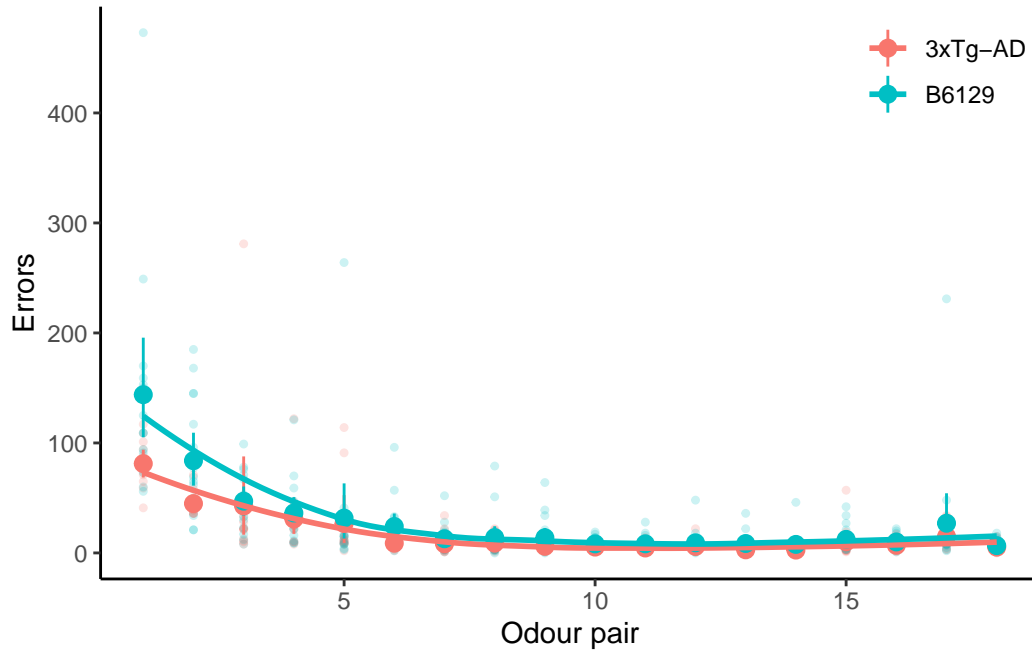
Figure 2: Errors (±95% CI) made by the mice at on each odour pair during the reversal stages.

Table 4: AICc model table for total errors.

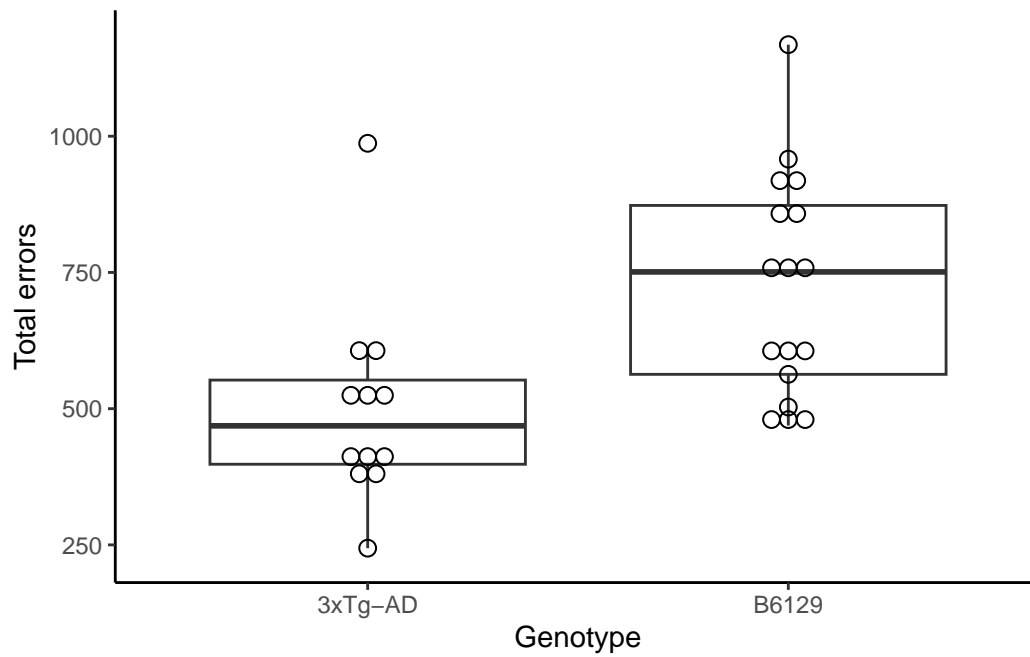| (Intercept)	geno	sex	geno:sex	df	logLik	AICc	delta	weight
501.08	+			3	-193.27	393.49	0.00	0.57143333
491.93	+	+		4	-192.58	394.84	1.34	0.29199522
498.64	+	+	+	5	-192.47	397.55	4.06	0.07507303
630.93				2	-197.41	399.28	5.79	0.03163287
602.87		+		3	-196.22	399.40	5.90	0.02986555

Figure 3: Total errors made, excluding retest.

Retest