Fig. S1: Behavioral results for the high (HP) and low probability (LP) condition. A) Average number of reversal errors per reversal. B) Total number of switches between the two response alternatives during the experiment. * p<0.05.
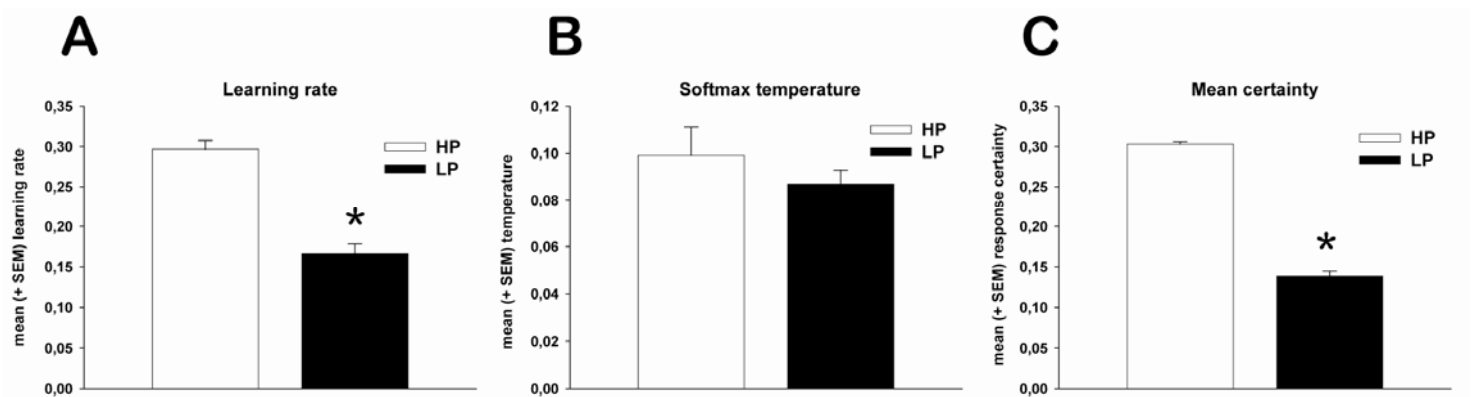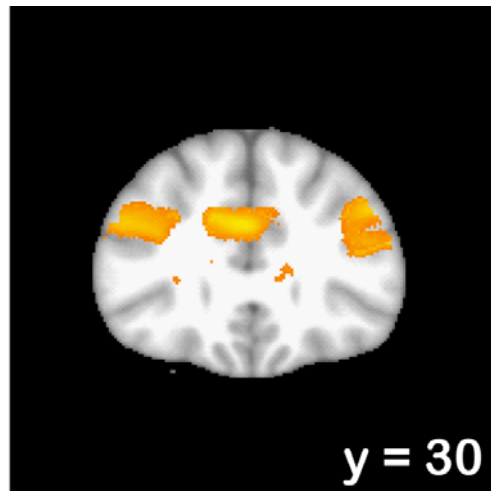

Fig. S2: Computational parameters for the two conditions. Both the learning rate (A) and the average decision certainty (C) were higher in the HP as compared to the LP condition. Inverse temperature (B) did not differ between conditions. * p<0.05 high probability (HP) vs. low probability (LP) condition.
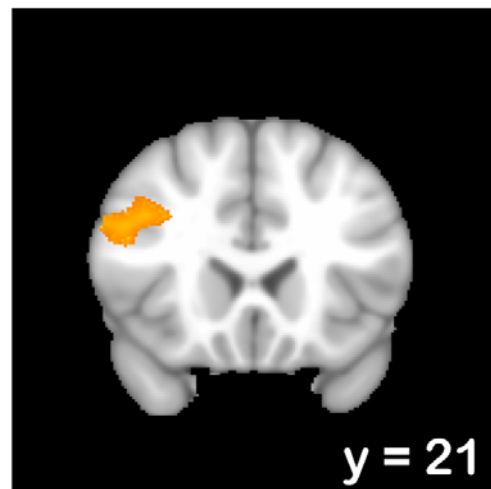
Fig. S3: Signal change in response to negative feedback (ALLNEG – ALLPOS) superimposed on the MNI template brain. In both conditions (HP: top row, LP: bottom row), there was increased activity in the RCZ (left) and in the lateral prefrontal cortex (right). The color bar indicates z-scores.

Tab. S1: Brain regions and MNI coordinates (x,y,z) of brain regions significantly activated in negative feedback trials that were followed by a behavioral adaptation after task rule reversal (FINREVERR – ALLPOS). Only clusters of at least 5 contiguous voxels are reported. L, left; R, right; BA, Brodmann area; RCZ, rostral cingulate zone.

Brain region	z-score	mm3	MNI coordinates		
			x	y	z
HP condition					
L/R RCZ	4.79	7216	1	33	29
L inferior parietal lobule	4.58	7533	-52	-37	35
R inferior parietal lobule	4.6	8489	46	-51	35
R inferior/middle frontal gyrus	4.53	6346	34	18	28
L inferior frontal gyrus	4.1	318	-55	6	28
L pregenual BA 32	4.37	2080	-12	50	6
L middle frontal gyrus	4.49	1515	-41	42	27
R dorsal postcentral sulcus	4.46	1142	24	-40	59
L parieto-occipital transition cortex	4.09	146	-13	-70	33
L/R posterior cingulate cortex	4.1	1506	8	-17	30
paracentral lobule	3.57	323	-5	-39	63
LP condition					
L/R RCZ	4.48	3277	-2	36	28
R middle frontal gyrus	4.42	5057	46	38	26
L inferior frontal sulcus	4.16	613	-37	33	24
L/R ventral posterior cingulate cortex	4.38	770	-1	-24	27
L inferior frontal gyrus	3.93	371	-39	4	24
R inferior parietal lobule	4.02	362	43	-42	29

Tab. S2: Brain regions and MNI coordinates (x,y,z) of brain regions significantly activated in negative feedback trials after task rule reversal that were not followed by a behavioral adaptation (REVERR – ALLPOS. Only clusters of at least 5 contiguous voxels are reported. L, left; R, right; RCZ, rostral cingulate zone.

Brain region	z-score	mm3	MNI coordinates		
			x	y	z
HP condition					
R middle frontal gyrus/inferior frontal sulcus	5.07	13789	48	14	33
L middle frontal gyrus	5.16	4439	-39	36	28
R/L RCZ	5.36	8912	3	36	31
R inferior parietal lobule	5.07	12136	47	-42	35
L intraparietal sulcus/ L inferior parietal lobule	4.6	7978	-35	-36	36
R ventral parieto-occipital sulcus	4.11	1282	14	-57	18
R/L posterior cingulate gyrus	4.58	2121	1	-24	33
Pons	4.36	942	4	-29	-21
L posterior superior insula	4.12	892	-32	-24	14
R postcentral gyrus	4.1	968	24	-35	71
R lateral orbitofrontal cortex	4.28	391	23	37	-19
L posterior inferior frontal sulcus I	3.91	488	-34	9	27
L posterior inferior frontal sulcus II	3.67	161	-46	8	36
L inferior frontal gyrus	3.98	395	-51	30	7
R posterior insula	3.91	342	31	-17	14
R intraoccipital sulcus	3.49	209	28	-80	16
Primary visual cortex	3.61	195	-11	-69	12
Cerebellum	4.06	147	9	-76	-19
Paracentral lobule	3.81	143	-4	-23	62
LP condition					
R inferior parietal lobule	4.71	14389	46	-36	35
L intraparietal sulcus (horizontal branch) / L inferior parietal lobule	5	8398	-39	-40	42
R middle frontal gyrus/inferior frontal sulcus	4.71	4559	44	9	36
L middle frontal gyrus	4.33	455	-42	34	32
R/L RCZ	4.55	3725	2	34	31
R rostral middle frontal gyrus /superior frontal sulcus	4.62	1950	21	52	32
R posterior inferior temporal sulcus	4.24	1174	57	-41	-8
L inferior temporal sulcus	4.05	190	-58	-33	-16
R superior frontal sulcus	3.65	345	30	17	50
R dorsal postcentral gyrus	3.71	168	31	-29	52
Cerebellum	4.07	144	4	-50	-15