

Figure S1. Illustration of the visual probe task. Example of a (a) food congruent trial, (b) food incongruent trial and (c) block design of the visual probe task. In a food congruent trial the dot appears in the position of the food image, while in an incongruent trial the dot appears in the position of the non-food image.

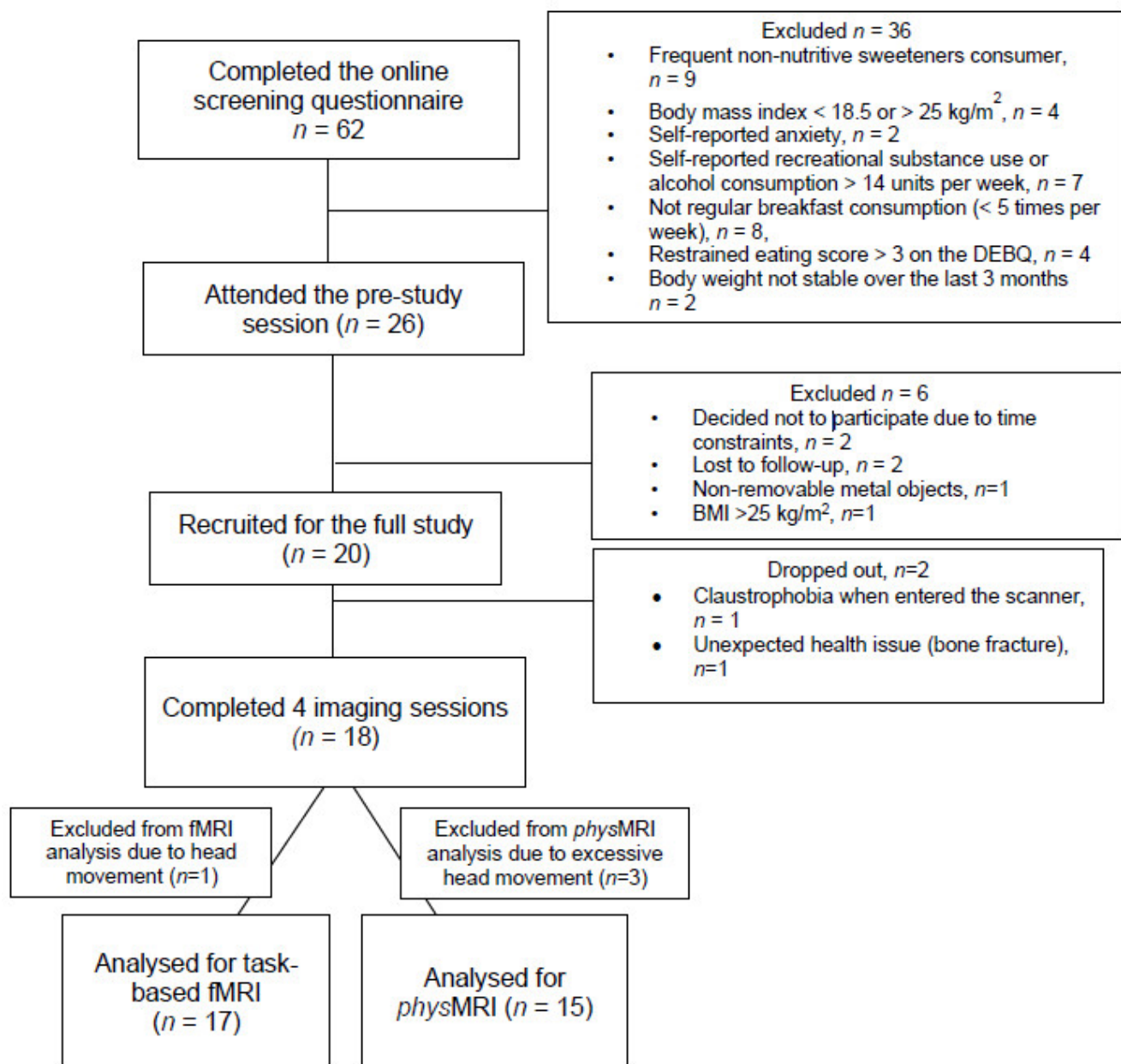


Figure S2. Participant flow chart. fMRI, functional magnetic resonance imaging; *physMRI*, physiological-MRI; DEBQ, Dutch Eating Behavior Questionnaire; BMI, body mass index.

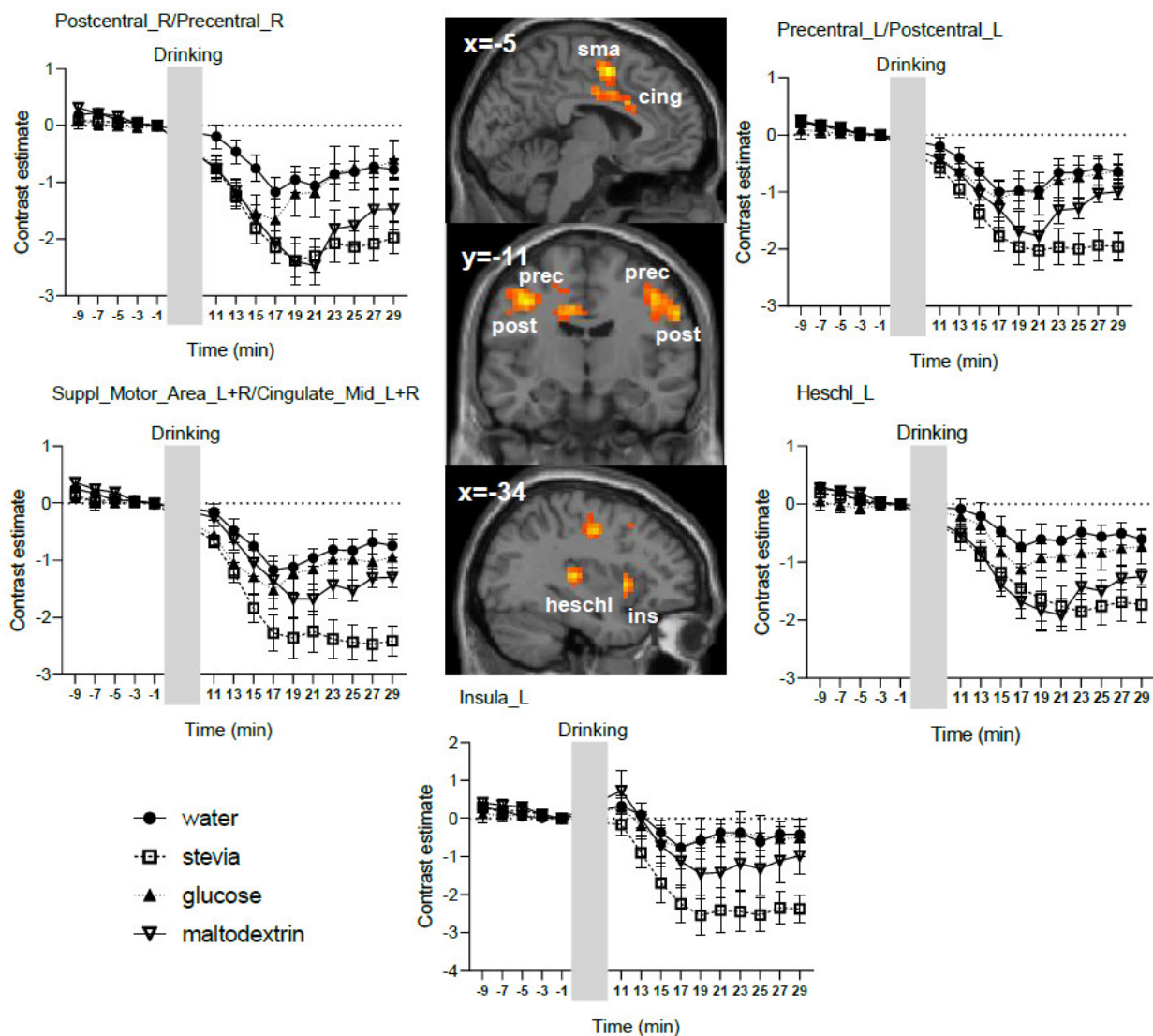


Figure S3. Line graphs present changes in blood-oxygenation-level-dependent (BOLD) signal over time in clusters that showed a significant interaction of taste-by-calories-by-time, $n = 15$. Brain overlays show areas exhibiting significant effect of taste-by-calories-by-time at a cluster extent $P_{FWE} < 0.05$ at a height threshold of $p < 0.001$ uncorrected. Cing, cingulate cortex; heschl, Heschl's gyri or transverse temporal gyrus; ins, insula; post, postcentral gyrus; prec, precentral gyrus; sma, supplementary motor area.

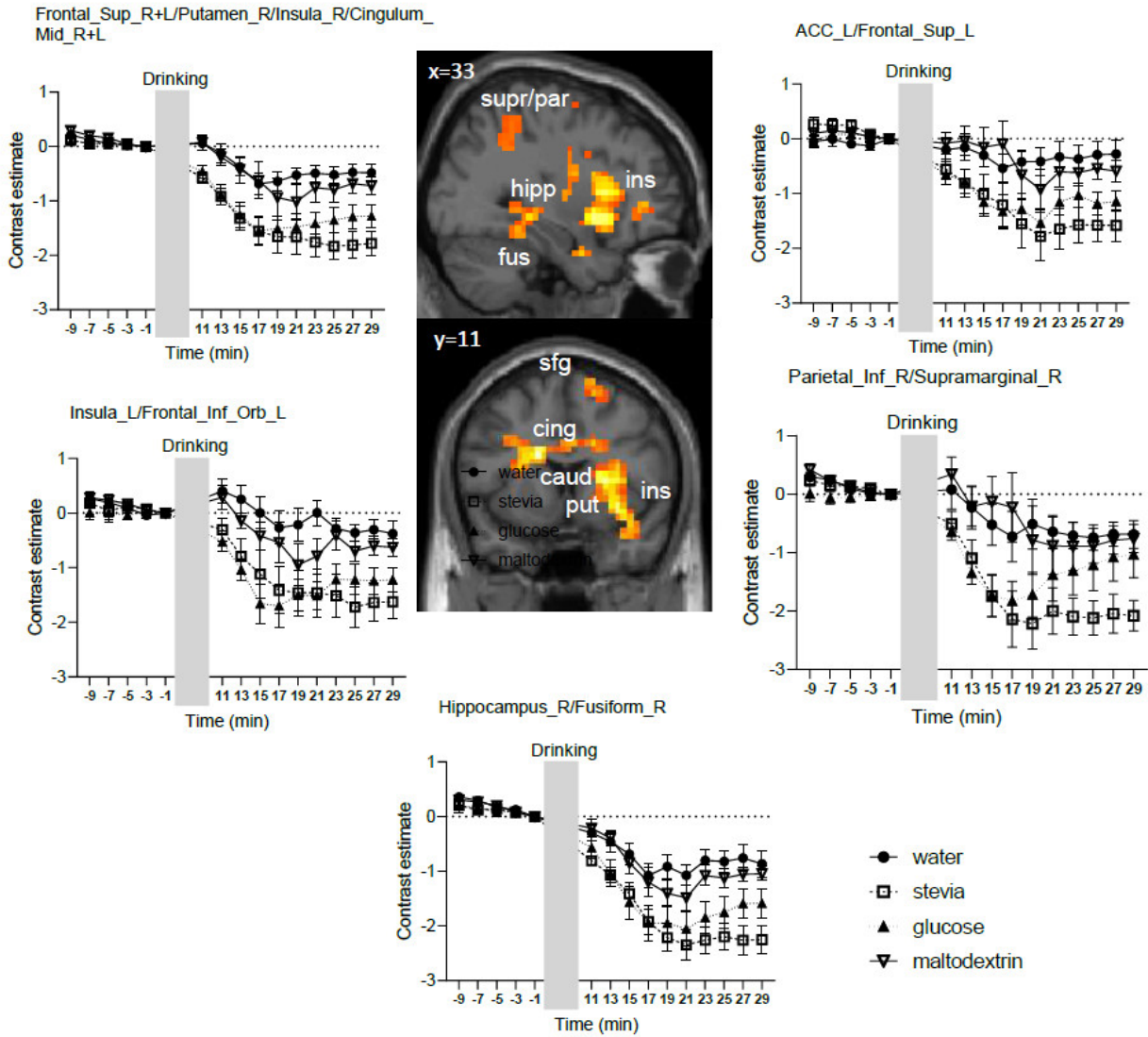
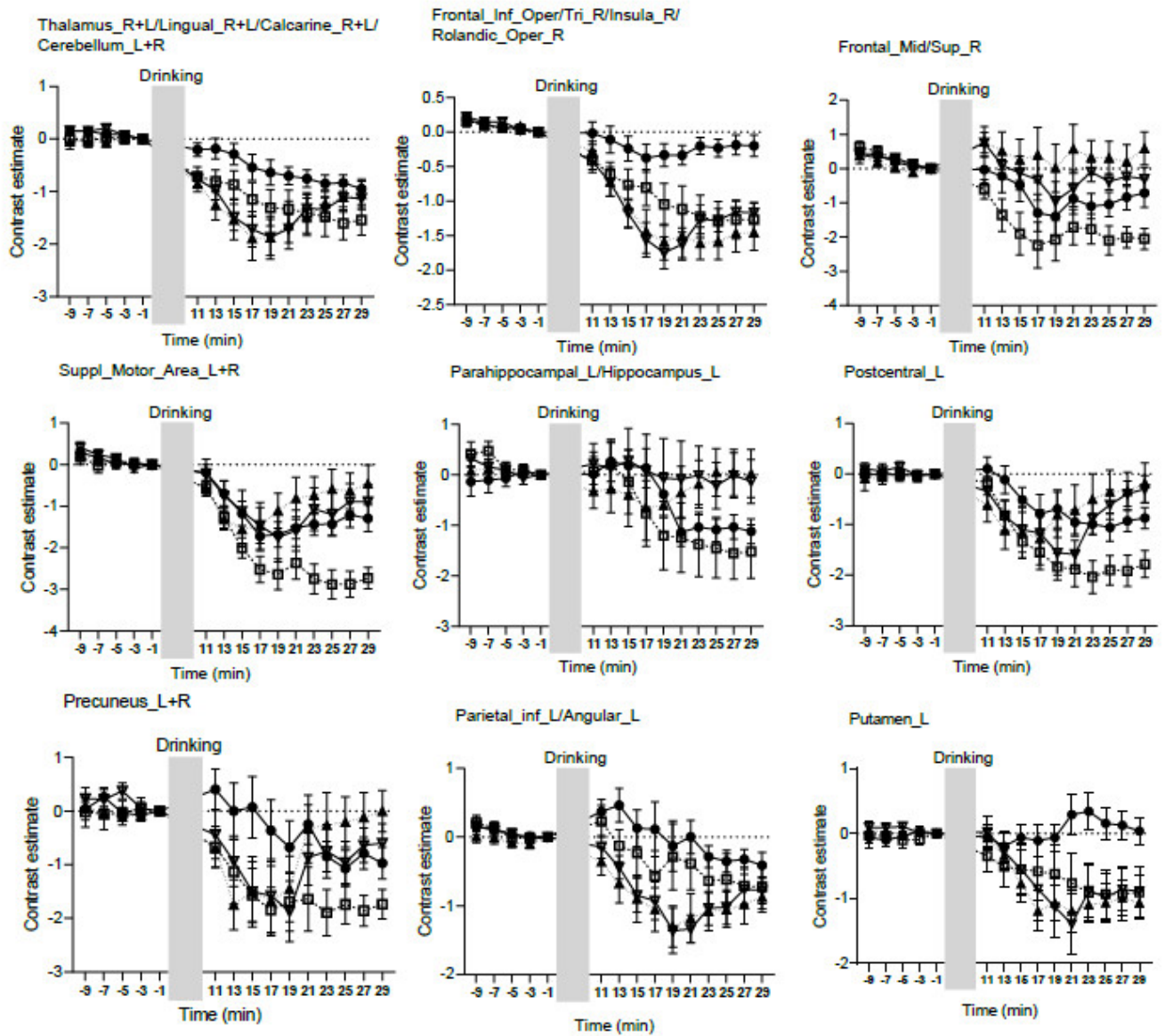


Figure S4. Line graphs present changes in blood-oxygenation-level-dependent (BOLD) signal over time in the significant clusters following oral ingestion of the sweet (stevia, glucose) compared to the non-sweet beverages (water, maltodextrin), $n = 15$. Brain images show areas exhibiting significant effect of time for sweet versus non-sweet beverages. Results correspond to cluster extent $P_{FWE} < 0.05$ at a height threshold of $p < 0.001$ uncorrected. Caud, caudate; cing, cingulate cortex; fus, fusiform gyrus; hipp, hippocampus; ins, insula; put, putamen; sfg, superior frontal gyrus; supr/par, supramarginal gyrus/inferior parietal lobule.



- water
- - -□- - stevia
- ...▲... glucose
- · - ▽ - maltodextrin

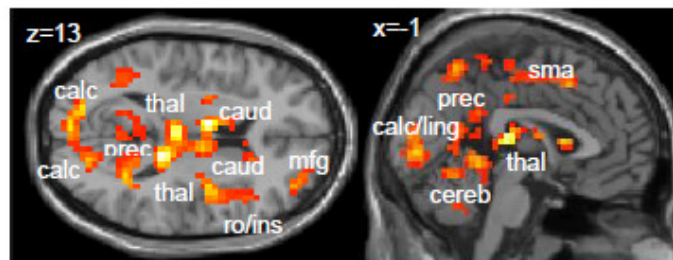


Figure S5. Line graphs present changes in blood-oxygenation-level-dependent (BOLD) signal over time in selected clusters that showed a significant effect of time in the comparison of caloric (glucose, maltodextrin) compared to the non-caloric beverages (water, stevia), $n = 15$. Brain overlays show areas exhibiting significant effect of calories-by-time at cluster extent $P_{FWE} < 0.05$ at a height threshold of $p < 0.001$ uncorrected. Calc, calcarine cortex; caud, caudate; cereb, cerebellum; ling, lingual gyrus; mfg, middle frontal gyrus; prec, precuneus; ro/ins, rolandic operculum/insula; sma, supplementary motor area; thal, thalamus.

Table S1. Participants' mood rating before the start of each imaging session, $n = 18$. p values correspond to repeated-measures ANOVA with beverage type as within-subjects variable.

	Water	Stevia	Glucose	Maltodextrin	p value
Clear headed	73.56 \pm 3.53	75.50 \pm 3.62	74.94 \pm 3.68	70.06 \pm 4.46	0.384
Energetic	67.44 \pm 4.54	70.11 \pm 4.21	68.72 \pm 4.33	62.94 \pm 4.82	0.271
Happy	76.22 \pm 2.93	79.56 \pm 2.91	76.11 \pm 4.41	73.06 \pm 3.82	0.235
Tired	39.56 \pm 5.01	42.33 \pm 5.65	44.00 \pm 5.75	45.06 \pm 5.37	0.848
Relaxed	69.44 \pm 4.25	71.61 \pm 3.42	72.83 \pm 4.18	69.44 \pm 4.25	0.737