

Variable	Factor class	Total samples	R <sup>2</sup>	q-value
Vegetable consumption frequency (longitudinal)	numeric	405	0.027	0.002
Fruit consumption frequency*	numeric	432	0.012	0.002
Outdoor pet	categorical	366	0.011	0.002
Non celiac gluten sensitivity	categorical	432	0.011	0.002
Other GI symptoms	categorical	366	0.01	0.002
Sugary food consumption frequency	numeric	432	0.01	0.002
Pets in home	categorical	432	0.009	0.002
Dairy consumption frequency (longitudinal)*	numeric	405	0.009	0.002
Toilet trained	categorical	405	0.008	0.002
Lactose intolerance	categorical	432	0.008	0.002
Dietary restrictions*	categorical	432	0.008	0.002
Seafood consumption frequency	numeric	429	0.007	0.002
Dietary supplement*	categorical	366	0.007	0.003
Multivitamin	categorical	432	0.007	0.002
Fermented vegetable consumption frequency	numeric	432	0.007	0.002
GI symptoms within 3 months*	categorical	432	0.006	0.004
GI issues this week*	categorical	432	0.005	0.003
GI issues two weeks ago	categorical	432	0.004	0.013

Supplementary File 6: Lifestyle and dietary features significantly associated with overall microbiome composition (as determined by a PERMANOVA test) but NOT significantly different between the ASD and TD cohort.