PAN
Physical Activity and Nutrition

Supplementary Table 1. Alpha and Beta Diversity Definitions.

Metric	Definition/Description	Reference
Alpha Diversity		
Richness	The number of unique species in a given area. In this case, it is the number of unique OTUs found in each sample. Does not take into account the abundances of the species or their distributions.	Fisher RA, Corbet, AS, Williams CB. The relation between the number of species and the number of individuals in a random sample of animal population. J Anim Ecol. 1943; 12, 42-58.
Pielou's Evenness	Refers to the similarity of frequencies of the different species making up a sample. Pielou's evenness ranges from 0 (no evenness, highly dominated by a small set of species) to 1 (complete evenness, frequency is relatively similar between species).	Pielou EC. The measurement of diversity in different types of biological collections. J Theor Biol. 1966; 13: 131–144.p
Phylogenetic Diversity	A measure of biodiversity based on phylogeny. Specifically, phylogenetic diversity of a set of species is equal to the sum of the lengths of all branches on the tree that span members in the set. Diversity can more generally be thought of as a combination of richness and evenness.	Faith DP. Conservation evaluation and phylogenetic diversity. Biol Conserv. 1992; 61: 1-10.
Beta Diversity		
Unweighted UniFrac	Measures the difference between two collections of sequences (for example, 16S rRNA molecules sequenced from different microbial samples) as the amount of evolutionary history that is unique to either of the two, which is measured as the fraction of branch length in a phylogenetic tree that leads to descendants of one sample or the other but not both.	Lozupone C, Lladser ME, Knights D, Stombaugh J, Knight R. UniFrac: an effective distance metric for microbial community comparison. ISME J. 2011;5:169-72.
Weighted UniFrac	The above definition of unweighted UniFrac, but additionally directly accounts for differences in relative abundance.	Lozupone C, Lladser ME, Knights D, Stombaugh J, Knight R. UniFrac: an effective distance metric for microbial community comparison. ISME J. 2011;5:169-72.