Table X Temporal variability of diversity as a function of different metadata factors. Values indicate mean coefficient of variation (CV) of Faith’s phylogenetic diversity (PD), OTU richness, and Shannon index across individuals. Values in bold indicate statistically significant differences (uncorrected p < 0.05) based on Welch two sample t-tests as implemented in R. Numbers in parentheses indicate the number of individuals belonging to each group.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Mean Coefficient of Variation in Alpha Diversity | | | | | | | |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Gender | *Female (48)* | *Male (30)* | *Female (48)* | *Male (26)* | *Female (35)* | *Male (25)* | *Female (50)* | *Male (28)* |
| PD | 0.199 | 0.179 | 0.152 | 0.131 | 0.217 | 0.191 | 0.119 | 0.098 |
| Richness | 0.236 | 0.216 | 0.209 | 0.188 | 0.259 | 0.225 | 0.142 | 0.120 |
| Shannon | 0.145 | 0.132 | 0.129 | 0.115 | 0.150 | 0.154 | 0.110 | 0.088 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Antibiotic use | *Yes (19)* | *No (61)* | *Yes (17)* | *No (58)* | *Yes (13)* | *No (48)* | *Yes (18)* | *No (62)* |
| PD | 0.216 | 0.181 | **0.123** | **0.151** | 0.198 | 0.207 | **0.147** | **0.101** |
| Richness | 0.260 | 0.215 | 0.174 | 0.209 | 0.233 | 0.247 | **0.169** | **0.123** |
| Shannon | 0.144 | 0.137 | 0.113 | 0.126 | 0.170 | 0.148 | 0.131 | 0.093 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| !Hormonal birth control | *Yes (26)* | *No (22)* | *Yes (27)* | *No (21)* | *Yes (20)* | *No (15)* | *Yes (28)* | *No (22)* |
| PD | 0.179 | 0.222 | 0.160 | 0.141 | **0.249** | **0.174** | 0.124 | 0.114 |
| Richness | 0.207 | 0.270 | 0.220 | 0.194 | **0.297** | **0.209** | 0.151 | 0.130 |
| Shannon | 0.125 | 0.169 | 0.129 | 0.129 | 0.138 | 0.167 | 0.106 | 0.115 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Lives with dogs | *Yes (32)* | *No (47)* | *Yes (30)* | *No (45)* | *Yes (26)* | *No (35)* | *Yes (32)* | *No (47)* |
| PD | 0.214 | 0.173 | 0.134 | 0.151 | 0.222 | 0.193 | **0.089** | **0.125** |
| Richness | **0.263** | **0.202** | 0.193 | 0.207 | 0.268 | 0.227 | **0.113** | **0.146** |
| Shannon | 0.153 | 0.129 | 0.125 | 0.121 | 0.151 | 0.153 | **0.080** | **0.115** |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Lives with cats | *Yes (17)* | *No (62)* | *Yes (15)* | *No (60)* | *Yes (15)* | *No (46)* | *Yes (18)* | *No (61)* |
| PD | 0.191 | 0.189 | 0.150 | 0.143 | 0.202 | 0.207 | 0.096 | 0.115 |
| Richness | 0.230 | 0.225 | 0.218 | 0.197 | 0.245 | 0.244 | 0.113 | 0.138 |
| Shannon | **0.108** | **0.148** | 0.134 | 0.120 | 0.156 | 0.151 | 0.085 | 0.105 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Bites fingernails | *Yes (28)* | *No (51)* | *Yes (27)* | *No (48)* | *Yes (24)* | *No (37)* | *Yes (30)* | *No (49)* |
| PD | 0.194 | 0.187 | 0.145 | 0.144 | 0.201 | 0.208 | 0.125 | 0.102 |
| Richness | 0.234 | 0.222 | 0.198 | 0.203 | 0.237 | 0.249 | 0.151 | 0.121 |
| Shannon | 0.122 | 0.148 | 0.119 | 0.125 | 0.139 | 0.161 | **0.119** | **0.090** |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Use fabric softener | *Yes (38)* | *No (41)* | *Yes (35)* | *No (40)* | *Yes (27)* | *No (34)* | *Yes (37)* | *No (42)* |
| PD | 0.192 | 0.187 | 0.135 | 0.153 | 0.204 | 0.207 | 0.117 | 0.104 |
| Richness | 0.234 | 0.219 | 0.191 | 0.210 | 0.248 | 0.241 | 0.141 | 0.125 |
| Shannon | 0.143 | 0.135 | 0.119 | 0.127 | 0.161 | 0.146 | 0.104 | 0.098 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Daily multivitamins | *Yes (25)* | *No (54)* | *Yes (25)* | *No (50)* | *Yes (20)* | *No (41)* | *Yes (26)* | *No (53)* |
| PD | 0.167 | 0.200 | 0.142 | 0.146 | **0.171** | **0.222** | 0.125 | 0.103 |
| Richness | 0.197 | 0.240 | 0.197 | 0.204 | **0.203** | **0.265** | 0.146 | 0.126 |
| Shannon | 0.129 | 0.144 | 0.112 | 0.129 | 0.153 | 0.152 | 0.110 | 0.096 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Other supplements | *Yes (19)* | *No (60)* | *Yes (18)* | *No (57)* | *Yes (15)* | *No (46)* | *Yes (20)* | *No (59)* |
| PD | 0.163 | 0.198 | 0.140 | 0.146 | 0.185 | 0.212 | 0.110 | 0.110 |
| Richness | 0.189 | 0.238 | 0.189 | 0.205 | 0.214 | 0.254 | 0.137 | 0.131 |
| Shannon | 0.126 | 0.143 | 0.116 | 0.125 | 0.148 | 0.154 | 0.106 | 0.099 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Lactose intolerant | *Yes (8)* | *No (71)* | *Yes (7)* | *No (68)* | *Yes (8)* | *No (53)* | *Yes (8)* | *No (71)* |
| PD | 0.175 | 0.191 | 0.123 | 0.147 | 0.195 | 0.207 | 0.121 | 0.109 |
| Richness | 0.207 | 0.229 | 0.177 | 0.204 | 0.231 | 0.246 | 0.143 | 0.131 |
| Shannon | 0.125 | 0.141 | 0.107 | 0.125 | 0.152 | 0.153 | 0.106 | 0.100 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Race/ethnicity | Caucasian (66) | Other (12) | Caucasian (60) | Other (14) | Caucasian (49) | Other (11) | Caucasian (64) | Other (14) |
| PD | 0.189 | 0.194 | 0.142 | 0.155 | 0.212 | 0.175 | 0.111 | 0.114 |
| Richness | 0.226 | 0.228 | 0.201 | 0.205 | 0.254 | 0.203 | 0.133 | 0.136 |
| Shannon | 0.134 | 0.166 | 0.119 | 0.142 | 0.155 | 0.149 | 0.100 | 0.105 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| On campus housing | *Yes (11)* | *No (68)* | *Yes (11)* | *No (64)* | *Yes (8)* | *No (53)* | *Yes (13)* | *No (66)* |
| PD | 0.228 | 0.183 | 0.147 | 0.144 | 0.191 | 0.208 | 0.111 | 0.110 |
| Richness | 0.278 | 0.218 | 0.204 | 0.201 | 0.223 | 0.248 | 0.129 | 0.133 |
| Shannon | 0.134 | 0.140 | 0.104 | 0.126 | 0.149 | 0.153 | 0.106 | 0.100 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| OTC med. for acne | *Yes (28)* | *No (51)* | *Yes (26)* | *No (49)* | *Yes (26)* | *No (35)* | *Yes (27)* | *No (52)* |
| PD | 0.179 | 0.195 | **0.115** | **0.160** | 0.201 | 0.209 | 0.117 | 0.107 |
| Richness | 0.211 | 0.235 | **0.158** | **0.224** | 0.237 | 0.249 | 0.134 | 0.132 |
| Shannon | 0.128 | 0.145 | 0.109 | 0.130 | 0.151 | 0.154 | 0.105 | 0.099 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Tonsils removed | *Yes (10)* | *No (69)* | *Yes (9)* | *No (66)* | *Yes (9)* | *No (52)* | *Yes (8)* | *No (71)* |
| PD | 0.196 | 0.189 | 0.154 | 0.143 | 0.219 | 0.203 | **0.088** | **0.113** |
| Richness | 0.239 | 0.224 | 0.212 | 0.200 | 0.264 | 0.241 | 0.119 | 0.134 |
| Shannon | 0.160 | 0.136 | 0.141 | 0.121 | 0.134 | 0.156 | 0.109 | 0.100 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Chickenpox | *Yes (57)* | *No (22)* | *Yes (55)* | *No (20)* | *Yes (45)* | *No (16)* | *Yes (57)* | *No (22)* |
| PD | 0.198 | 0.169 | 0.143 | 0.150 | 0.211 | 0.190 | 0.110 | 0.112 |
| Richness | 0.235 | 0.203 | 0.205 | 0.190 | 0.254 | 0.217 | 0.133 | 0.133 |
| Shannon | 0.138 | 0.141 | 0.125 | 0.119 | 0.150 | 0.161 | 0.098 | 0.109 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| \*Use medication | *Yes (23)* | *No (56)* | *Yes (23)* | *No (52)* | *Yes (19)* | *No (42)* | *Yes (23)* | *No (55)* |
| PD | 0.193 | 0.188 | 0.131 | 0.151 | 0.206 | 0.205 | 0.114 | 0.107 |
| Richness | 0.238 | 0.222 | 0.192 | 0.205 | 0.253 | 0.240 | 0.139 | 0.128 |
| Shannon | 0.140 | 0.139 | 0.108 | 0.130 | 0.153 | 0.152 | 0.109 | 0.097 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Born via C-section | *Yes (16)* | *No (60)* | *Yes (16)* | *No (56)* | *Yes (12)* | *No (46)* | *Yes (16)* | *No (61)* |
| PD | 0.185 | 0.188 | 0.152 | 0.145 | 0.204 | 0.200 | **0.140** | **0.104** |
| Richness | 0.222 | 0.224 | 0.208 | 0.205 | 0.236 | 0.237 | 0.159 | 0.127 |
| Shannon | 0.146 | 0.137 | 0.121 | 0.126 | 0.139 | 0.152 | 0.123 | 0.095 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Asthma | *Yes (9)* | *No (70)* | *Yes (10)* | *No (65)* | *Yes (8)* | *No (53)* | *Yes (10)* | *No (69)* |
| PD | 0.153 | 0.194 | 0.152 | 0.143 | 0.204 | 0.206 | 0.098 | 0.112 |
| Richness | 0.183 | 0.232 | 0.203 | 0.201 | 0.245 | 0.244 | 0.117 | 0.135 |
| Shannon | 0.106 | 0.143 | 0.116 | 0.124 | 0.163 | 0.151 | 0.087 | 0.103 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Seasonal allergies | *Yes (34)* | *No (44)* | *Yes (31)* | *No (43)* | *Yes (27)* | *No (34)* | *Yes (35)* | *No (43)* |
| PD | 0.193 | 0.187 | 0.133 | 0.154 | 0.199 | 0.210 | 0.099 | 0.120 |
| Richness | 0.232 | 0.222 | 0.188 | 0.213 | 0.240 | 0.248 | 0.121 | 0.143 |
| Shannon | 0.135 | 0.143 | 0.119 | 0.128 | 0.155 | 0.151 | 0.094 | 0.107 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Drug allergies | *Yes (13)* | *No (66)* | *Yes (14)* | *No (61)* | *Yes (11)* | *No (50)* | *Yes (12)* | *No (67)* |
| PD | 0.183 | 0.191 | 0.120 | 0.150 | 0.203 | 0.206 | 0.107 | 0.111 |
| Richness | 0.214 | 0.229 | 0.169 | 0.209 | 0.244 | 0.244 | 0.129 | 0.133 |
| Shannon | 0.142 | 0.139 | **0.094** | **0.130** | 0.142 | 0.155 | 0.122 | 0.097 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Pet allergies | *Yes (20)* | *No (59)* | *Yes (18)* | *No (57)* | *Yes (16)* | *No (45)* | *Yes (19)* | *No (60)* |
| PD | 0.192 | 0.189 | 0.145 | 0.144 | 0.214 | 0.202 | 0.097 | 0.115 |
| Richness | 0.233 | 0.224 | 0.199 | 0.202 | 0.251 | 0.242 | 0.119 | 0.137 |
| Shannon | 0.140 | 0.139 | 0.131 | 0.121 | 0.159 | 0.150 | 0.092 | 0.104 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Poison ivy/oak allergies | *Yes (9)* | *No (70)* | *Yes (8)* | *No (67)* | *Yes (8)* | *No (53)* | *Yes (8)* | *No (71)* |
| PD | 0.227 | 0.185 | 0.136 | 0.145 | 0.196 | 0.207 | 0.106 | 0.111 |
| Richness | 0.279 | 0.220 | 0.176 | 0.204 | 0.228 | 0.247 | 0.130 | 0.133 |
| Shannon | 0.179 | 0.134 | 0.112 | 0.124 | 0.132 | 0.156 | 0.114 | 0.099 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| #Skin condition | *Yes (12)* | *No (66)* | *Yes (11)* | *No (63)* | *Yes (9)* | *No (52)* | *Yes (12)* | *No (66)* |
| PD | 0.196 | 0.188 | 0.133 | 0.144 | 0.196 | 0.207 | **0.085** | **0.115** |
| Richness | 0.224 | 0.226 | 0.199 | 0.199 | 0.234 | 0.246 | **0.109** | **0.136** |
| Shannon | 0.115 | 0.141 | 0.114 | 0.122 | 0.126 | 0.157 | 0.080 | 0.102 |
|  | Forehead | | Gut | | Palm | | Tongue | |
| Reported illness | *Yes (49)* | *No (31)* | *Yes (50)* | *No (25)* | *Yes (39)* | *No (22)* | *Yes (50)* | *No (30)* |
| PD | 0.179 | 0.205 | 0.133 | 0.166 | 0.204 | 0.208 | 0.114 | 0.107 |
| Richness | 0.214 | 0.244 | 0.190 | 0.224 | 0.247 | 0.239 | 0.136 | 0.129 |
| Shannon | 0.131 | 0.151 | 0.110 | 0.148 | 0.151 | 0.155 | 0.101 | 0.103 |