S19 Fig: Scenario II: QQ plots for null data from two independent bi-ethnic case-parent trio studies of OFC subgroups assuming fixed genetic effects for one trait and random for the other. Observed($-\log_{10}p$-values) are plotted on the y-axis and Expected($-\log_{10}p$-values) on the x-axis. Type I error performance of tests of simultaneous effect of a genetic variant on both outcomes is based on 9.99 million null variants with genetic effects $\{\log(RR_{CL/P}) \sim N(0, 0.1^2), RR_{CP} = 1\}$. Values of $RR_{CL/P}$ ranged from $\frac{1}{1.7}$ to 1.7. The gray shaded region represents a conservative 95% confidence interval for the expected distribution of p-values. P-values $\geq 10^{-12}$ are shown here.