

Supplemental material for: Intraclass correlation measures in cluster randomized trials with binary outcomes

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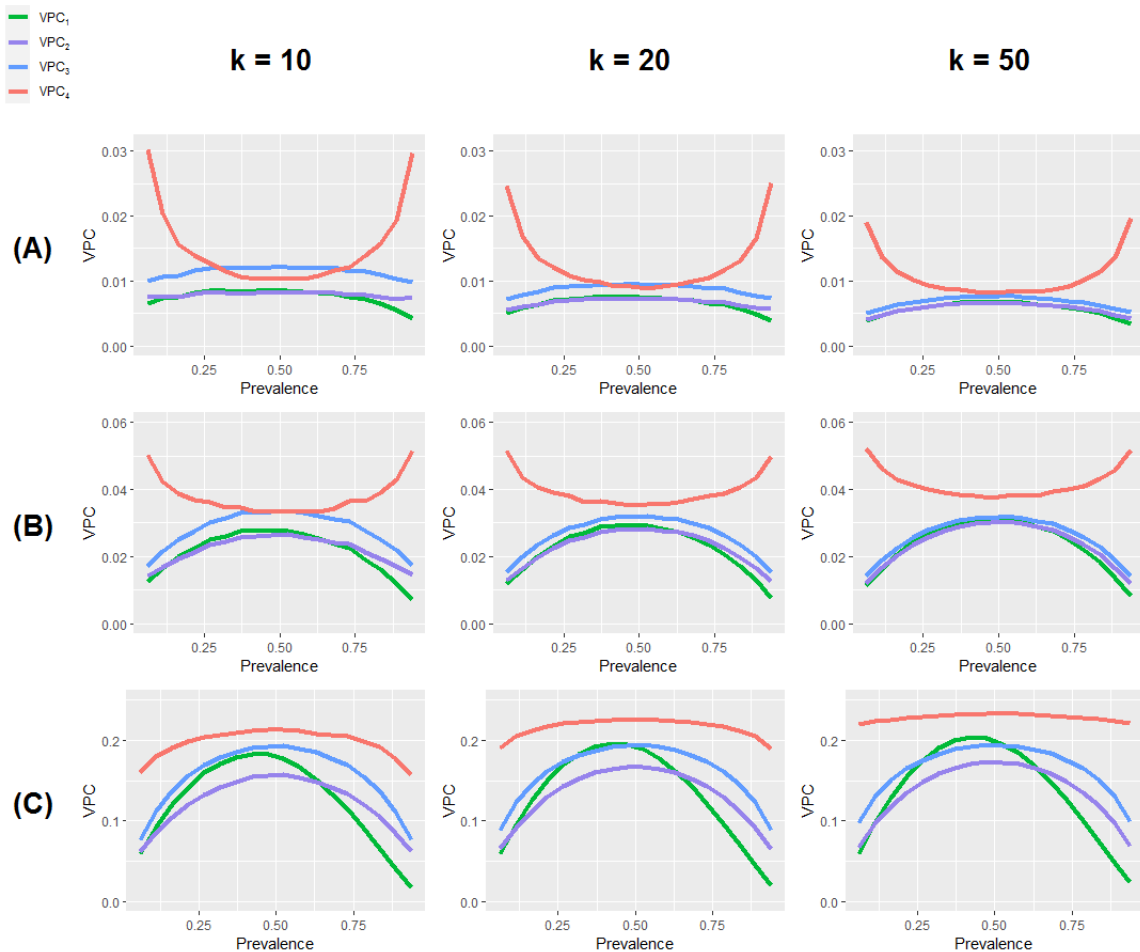


Figure 1: Variance partition coefficient expected mean as a function of outcome prevalence expected mean. These means were computed from 10000 simulated datasets. Three situations were considered for the underlying continuous outcome clustering level [ICC for continuous outcome equal to 0.01 (A), 0.05 (B) or 0.3 (C)]. We considered cluster numbers of 10, 20 and 50, and cluster sizes were variable, with mean 25 and variance 225. Extreme prevalence values (i.e., close to 0 or 1) were removed.

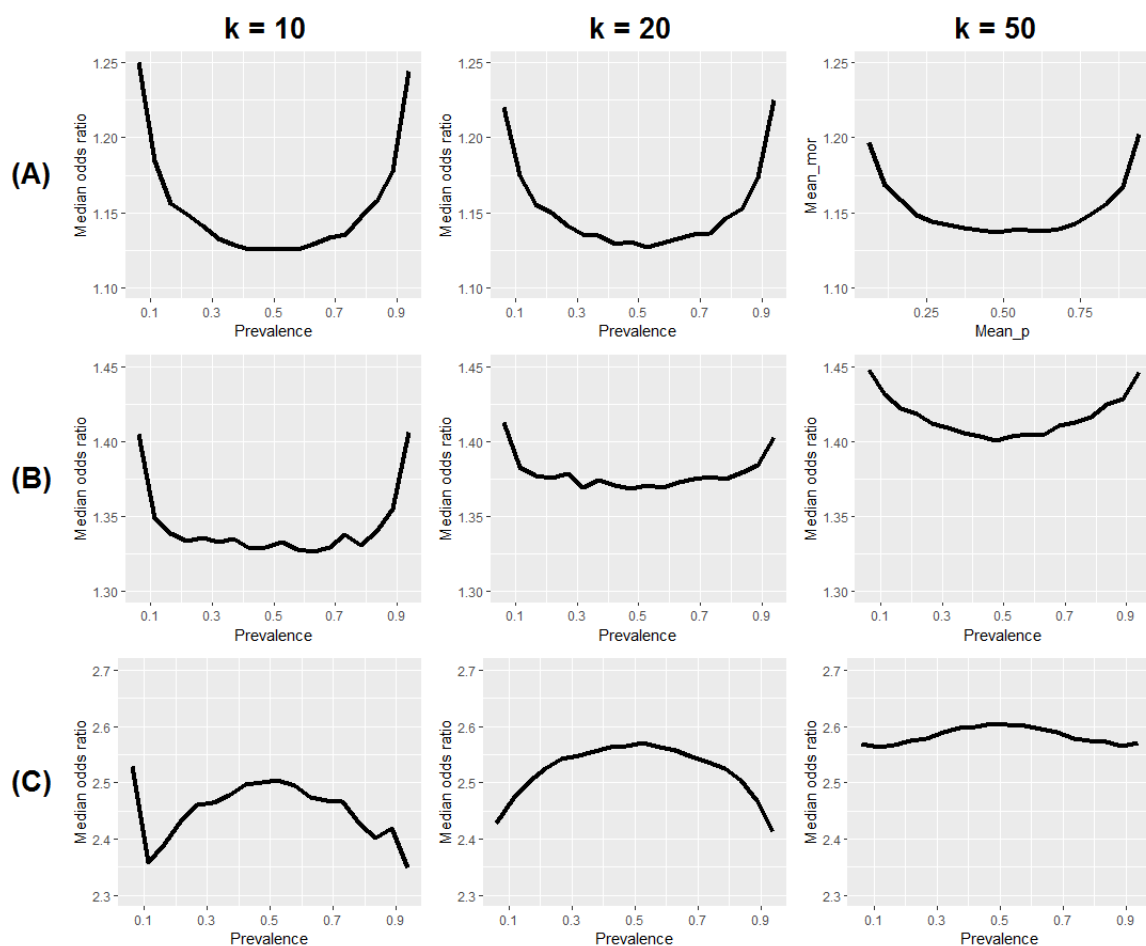


Figure 2: Median odds ratio expected mean as a function of outcome prevalence expected mean. These means were computed from 10000 simulated datasets. Three situations were considered for the underlying continuous outcome clustering level [ICC for continuous outcome equal to 0.01 (A), 0.05 (B) or 0.3 (C)]. We considered cluster numbers of 10, 20 and 50, and cluster sizes were variable, with mean 25 and variance 225. Extreme prevalence values (i.e., close to 0 or 1) were removed.

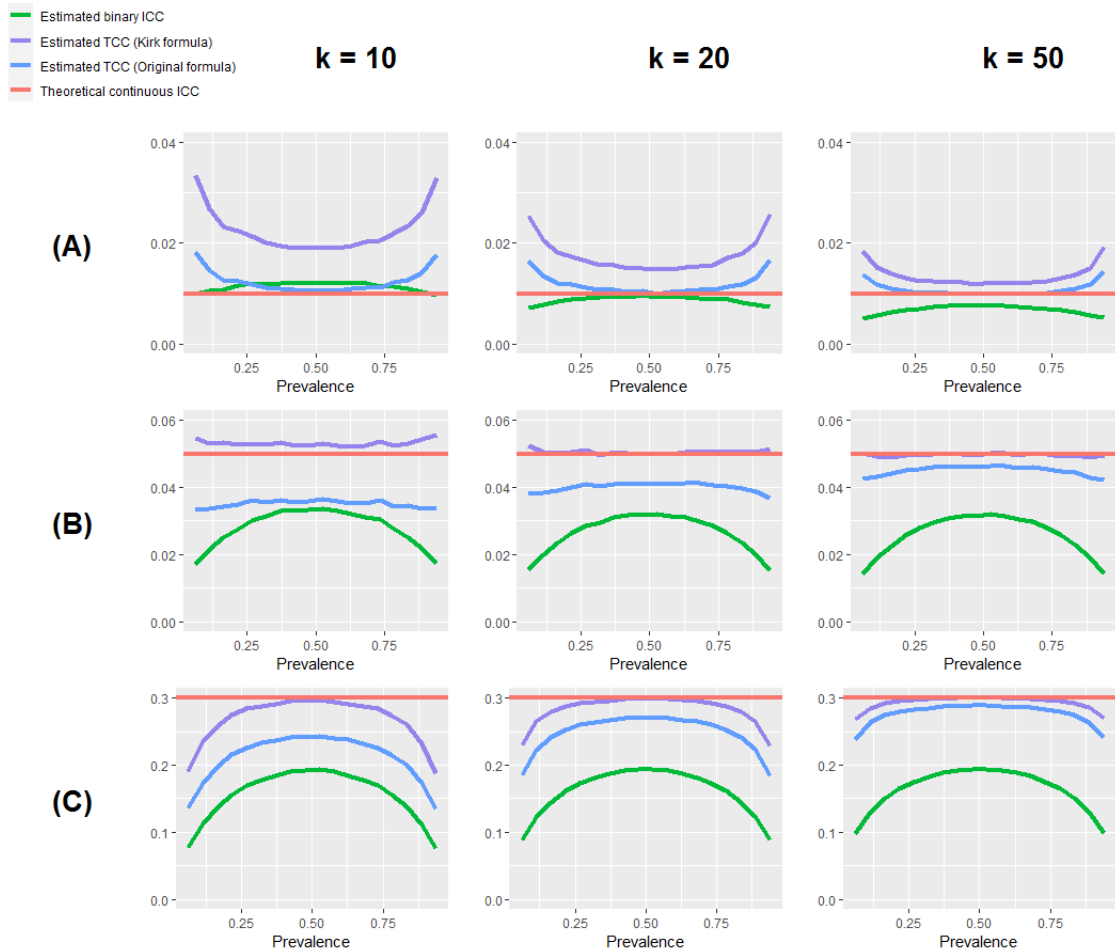


Figure 3: Tetrachoric correlation coefficient (TCC) and intraclass correlation coefficient (ICC) expected means as functions of outcome prevalence expected mean. These means were computed from 10000 simulated datasets. Three situations were considered for the underlying continuous outcome clustering level [ICC for continuous outcome equal to 0.01 (A), 0.05 (B) or 0.3 (C)]. We considered cluster numbers of 10, 20 and 50, and cluster sizes were variable, with mean 25 and variance 225. Extreme prevalence values (i.e., close to 0 or 1) were removed.

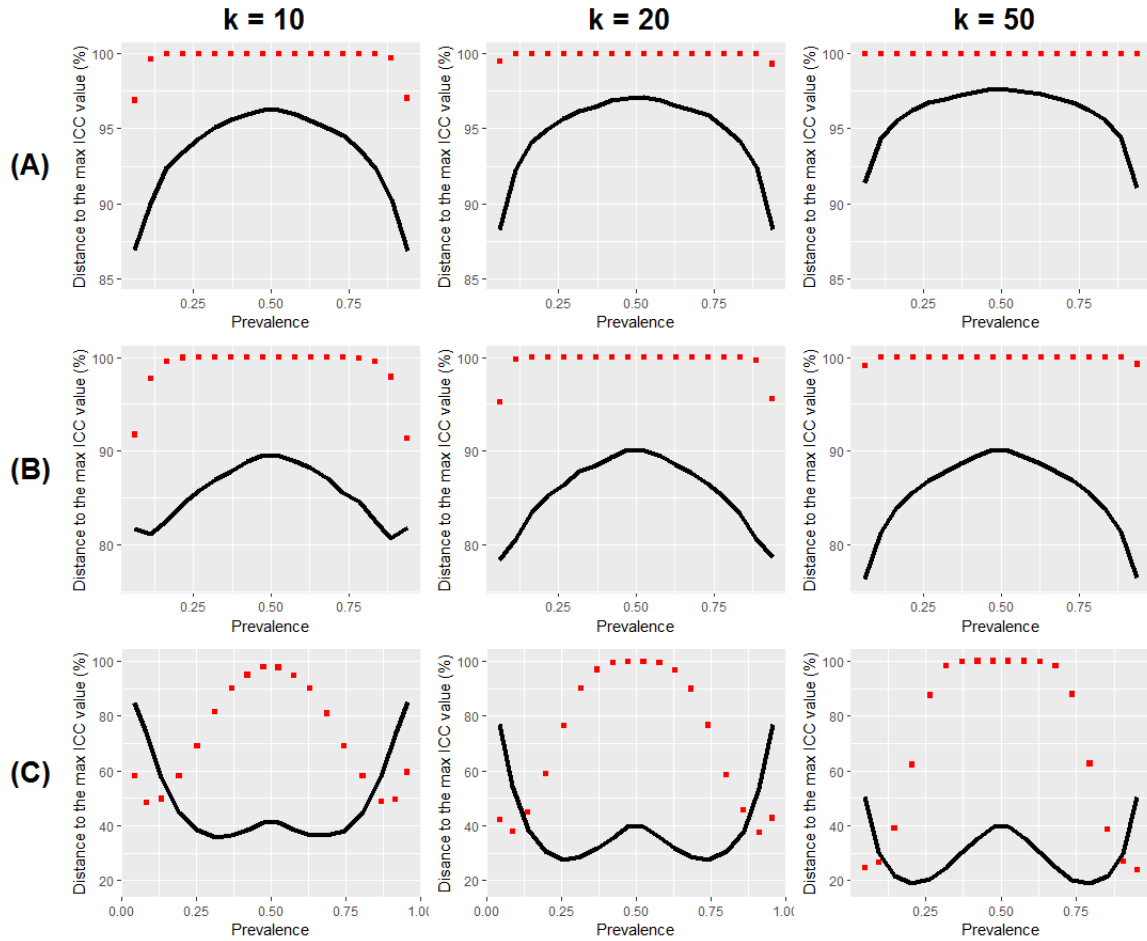


Figure 4: Relative deviation of the ICC estimate to its theoretical maximum possible value expected mean as a function of outcome prevalence expected mean (black curve) and proportion of estimated ICC values less than or equal to the theoretical maximum possible value expected mean as a function of the outcome prevalence expected mean (red dots). We simulated 10000 datasets and computed the mean over those for which the estimated ICC was less or equal than the maximum possible ICC value. Three situations were considered for the underlying continuous outcome clustering level [ICC for continuous outcome equal to 0.01 (A), 0.05 (B) or 0.3 (C)]. We considered cluster numbers of 10, 20 and 50, and cluster sizes were variable, with mean 25 and variance 225. Extreme prevalence values (i.e., close to 0 or 1) were removed.