

Supplemental Results for Simulation Study 2

The figures show results for conditions with $\{\gamma_{10}, \gamma_{01}\} = \{0.1, 0.3\}$ in Study 2.

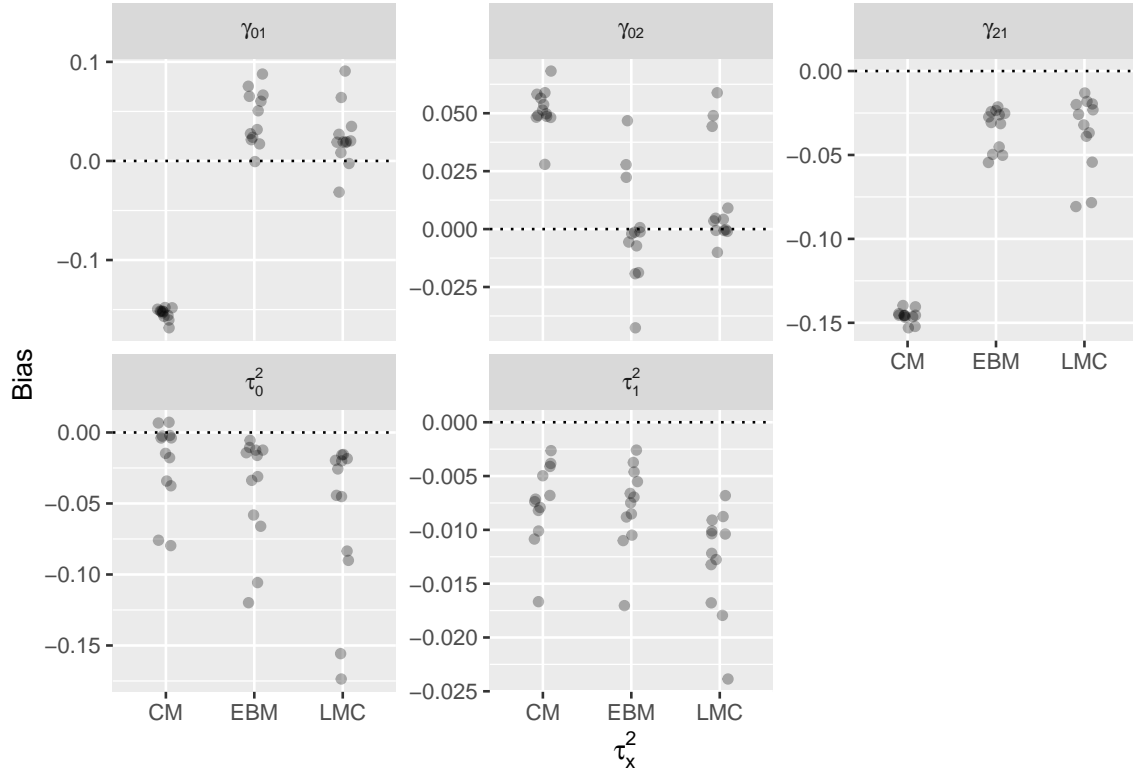
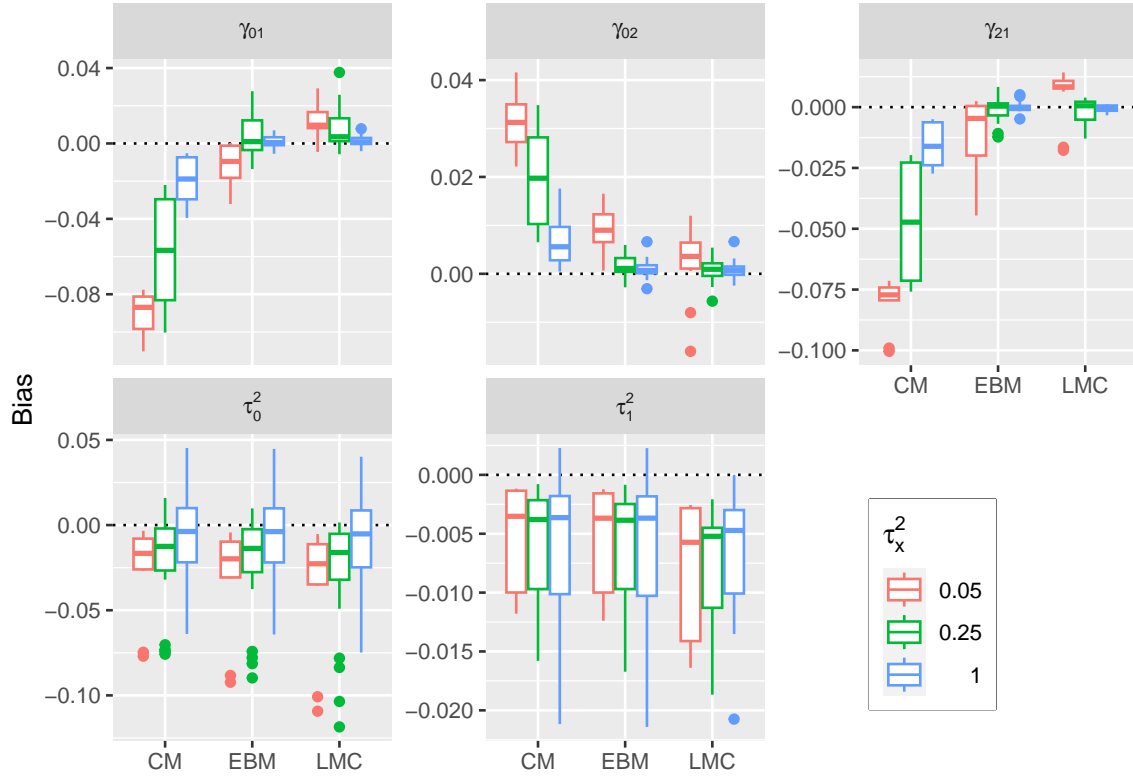


Figure S1

Bias of parameter estimates in Study 2 for conditions with low cluster mean reliability (i.e., average cluster size = 5 and $\tau_X^2 = 0.05$). The panels show the between-cluster effect (γ_{01}), the effect of the level-2 covariate (γ_{02}), the cross-level interaction (γ_{21}), the conditional random intercept variance of the outcome (τ_0^2), and the random slope variance (τ_1^2). CM, EBM, and LMC represents analyses with observed, Empirical Bayes, and latent means as covariate.

**Figure S2**

Bias of parameter estimates in Study 2 for conditions with average cluster size = 25 or $\tau_X^2 \geq 0.25$. The panels show the between-cluster effect (γ_{01}), the effect of the level-2 covariate (γ_{02}), the cross-level interaction (γ_{21}), the conditional random intercept variance of the outcome (τ_0^2), and the random slope variance (τ_1^2). CM, EBM, and LMC represents analyses with observed, Empirical Bayes, and latent means as covariate.