

$$V = \begin{bmatrix} \text{Study 1} & & \\ \sigma_{\epsilon_{1p_1}}^2 & & & & \\ \sigma_{\epsilon_{1p_2}}^2 & \sigma_{\epsilon_{1p_1}}^2 \rho_{s_{p_2p_1}} & & \sigma_{\epsilon_{1p_2}}^2 & \\ \sigma_{\epsilon_{1p_3}}^2 & \sigma_{\epsilon_{1p_1}}^2 \rho_{s_{p_3p_2}} & \sigma_{\epsilon_{1p_3}}^2 & \sigma_{\epsilon_{1p_2}}^2 \rho_{s_{p_3p_2}} & \sigma_{\epsilon_{1p_3}}^2 \\ 0 & & 0 & & \\ 0 & & 0 & & \\ 0 & & 0 & & \end{bmatrix}$$

Study 2

 $\sigma_{\epsilon_{2p_1}}^2$

Study 3

 $\sigma_{\epsilon_{3p_1}}^2$
 $\sigma_{\epsilon_{3p_2}}^2 \quad \sigma_{\epsilon_{3p_1}}^2 \rho_{s_{p_2p_1}} \quad \sigma_{\epsilon_{3p_2}}^2$