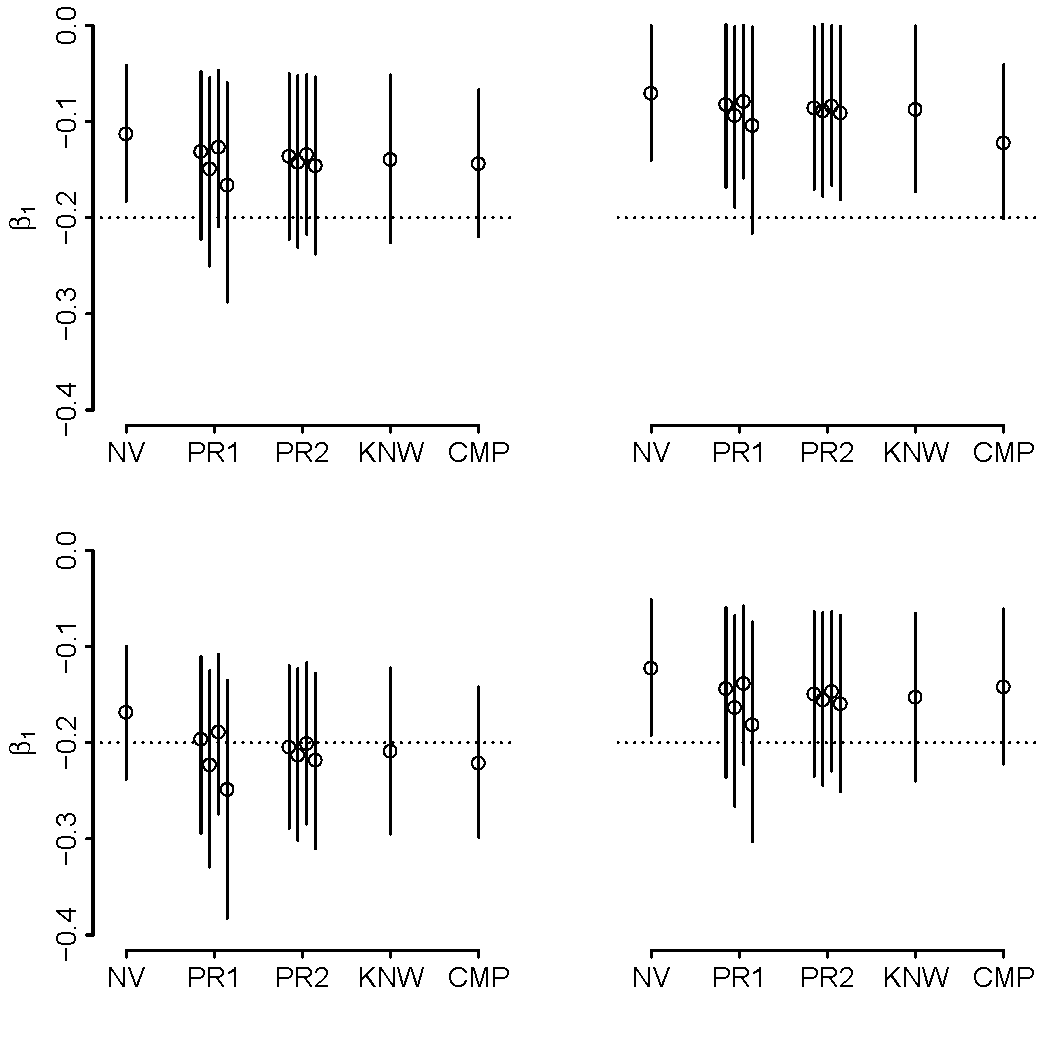
**Supplemental Materials 3: Analysis of synthetic data with value of k inverted compared to that presented in main text.**

**Figure S1.** Adjusted estimates of β1 with different degrees of knowledge about joint distribution of duration and intensity of exposure when ρ = -0.5 and k=1/2.6 in four simulations of synthetic example; naïve estimate (NV) is contrasted with adjusted estimates obtained under “well-calibrated” priors on (ρ,k) that are “wide” (PR1), “narrow” (PR2) and estimates obtained with ρ and k known (KNW; the best one can do without complete data), and complete data on intensity and duration (CMP); true value is denoted by dotted line, solid lines represent 95% credible intervals; of see text for details.

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**Figure S2.** Adjusted estimates of β1 with different degrees of knowledge about joint distribution of duration and intensity of exposure when ρ = +0.5 k=1/2.6 in four simulations of synthetic example; naïve estimate (NV) is contrasted with adjusted estimates obtained under “well-calibrated” priors on (ρ,k) that are “wide” (PR1), “narrow” (PR2) and estimates obtained with ρ and k known (KNW; the best one can do without complete data), and complete data on intensity and duration (CMP); true value is denoted by dotted line, solid lines represent 95% credible intervals; of see text for details.

