**Supplemental Table 1. Estimates of the 97.5th percentile obtained under various models averaged over 1000 simulations N = 2000, M = 25**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Scenario 1 under Bernoulli MCAR** | | | **Scenario 2 under Bernoulli MCAR** | | | **Scenario 1 under Systematic MCAR** | | | **Scenario 3 with square root transform** | | | **Scenario 3 with no transform** | | |
| **π = proportion missing** | | **Estimate** | **Width 95% CI** | **CI Coverage (%)** | **Estimate** | **Width 95% CI** | **CI Coverage (%)** | **Estimate** | **Width 95% CI** | **CI Coverage (%)** | **Estimate** | **Width 95% CI** | **CI Coverage (%)** | **Estimate** | **Width 95% CI** | **CI Coverage (%)** |
| **Expected** |  | **89.40** | **NA** | **95.0** | **89.40** | **NA** | **95.0** | **89.40** | **NA** | **95.0** | **132.71** | **NA** | **95.0** | **132.71** | **NA** | **95.0** |
| **π = 0.95** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Full data | | 89.32 | 3.55 | 94.6 | 89.33 | 3.56 | 94.6 | 89.32 | 3.56 | 95.6 | 132.46 | 10.95 | 95.6 | 132.46 | 10.95 | 95.6 |
| complete case | | 88.03 | 14.95 | 90.3 | 88.02 | 14.98 | 90.9 | 88.23 | 15.53 | 96.9 | 129.35 | 47.41 | 90.5 | 129.35 | 47.41 | 90.5 |
| MI | | 89.34 | 6.79 | 97.4 | 89.53 | 11.03 | 96.3 | 89.35 | 6.72 | 97.7 | 132.81 | 18.98 | 95.9 | 130.34 | 15.17 | 84.5 |
| Stochastic CR | | 89.31 | 3.54 | 74.6 | 89.23 | 3.53 | 50.1 | 89.29 | 3.51 | 74.2 | 132.57 | 10.92 | 76.0 | 130.31 | 10.29 | 69.7 |
| AE | | 86.91 | 3.26 | 31.9 | 74.55 | 1.75 | 0.0 | 86.88 | 3.24 | 32.5 | 125.20 | 9.73 | 33.3 | 126.23 | 9.87 | 40.1 |
| **π = 0.90** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Full data | | 89.35 | 3.56 | 95.2 | 89.32 | 3.52 | 93.9 | 89.31 | 3.59 | 95.8 | 132.50 | 10.92 | 95.0 | 132.50 | 10.92 | 95.0 |
| complete case | | 88.62 | 14.37 | 95.9 | 88.78 | 14.13 | 96.9 | 88.85 | 13.53 | 99.8 | 130.68 | 46.77 | 97.8 | 130.68 | 46.77 | 97.8 |
| MI | | 89.35 | 5.56 | 98.3 | 89.51 | 8.19 | 97.3 | 89.33 | 5.61 | 98.8 | 132.58 | 14.64 | 95.7 | 130.38 | 11.99 | 81.8 |
| Stochastic CR | | 89.32 | 3.53 | 83.8 | 89.31 | 3.54 | 63.6 | 89.31 | 3.54 | 84.3 | 132.57 | 10.98 | 82.9 | 130.41 | 10.22 | 76.4 |
| AE | | 86.98 | 3.29 | 31.9 | 74.64 | 1.79 | 0.0 | 86.89 | 3.26 | 30.2 | 125.07 | 9.83 | 30.2 | 126.13 | 9.98 | 41.3 |
| **π = 0.85** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Full data | | 89.33 | 3.57 | 94.0 | 89.32 | 3.54 | 95.5 | 89.40 | 3.59 | 94.5 | 132.38 | 10.91 | 95.8 | 132.38 | 10.91 | 95.8 |
| complete case | | 88.82 | 10.44 | 96.3 | 88.88 | 10.60 | 96.3 | 89.11 | 9.94 | 99.5 | 131.34 | 32.60 | 96.3 | 131.34 | 32.60 | 96.3 |
| MI | | 89.26 | 5.14 | 98.6 | 89.42 | 7.00 | 97.2 | 89.38 | 5.01 | 98.7 | 132.41 | 12.76 | 95.1 | 130.27 | 10.66 | 79.4 |
| Stochastic CR | | 89.27 | 3.52 | 86.9 | 89.38 | 3.53 | 69.7 | 89.37 | 3.56 | 87.4 | 132.39 | 10.97 | 88.5 | 130.30 | 10.32 | 79.6 |
| AE | | 86.87 | 3.25 | 27.4 | 74.65 | 1.77 | 0.0 | 87.01 | 3.27 | 31.6 | 124.99 | 9.56 | 26.2 | 125.99 | 9.71 | 36.8 |
| **π = 0.50** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Full data | | 89.31 | 3.55 | 95.8 | 89.40 | 3.59 | 94.4 | 89.37 | 3.57 | 94.3 | 132.53 | 10.91 | 95.0 | 132.53 | 10.91 | 95.0 |
| complete case | | 89.30 | 5.10 | 95.4 | 89.33 | 5.22 | 94.9 | 89.32 | 5.12 | 98.1 | 132.43 | 15.97 | 95.5 | 132.43 | 15.97 | 95.5 |
| MI | | 89.32 | 4.23 | 98.5 | 89.38 | 4.78 | 98.4 | 89.36 | 4.28 | 99.1 | 132.55 | 9.11 | 90.7 | 131.28 | 8.18 | 78.3 |
| Stochastic CR | | 89.32 | 3.52 | 93.2 | 89.37 | 3.55 | 88.0 | 89.36 | 3.59 | 93.4 | 132.57 | 10.94 | 93.3 | 131.26 | 10.53 | 89.9 |
| AE | | 86.92 | 3.23 | 24.5 | 74.65 | 1.76 | 0.0 | 86.97 | 3.26 | 27.0 | 125.09 | 9.73 | 24.0 | 126.07 | 9.87 | 35.8 |

Abbreviations: CI – Confidence Interval, NA – not applicable, MI - multiple imputation, Stochastic CR - stochastic conditional regression, AE - adjustment equation

**Supplemental Table 2. Estimates of the Pearson correlation obtained under various models averaged over 1000 simulations N = 2000, M = 25**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Scenario 1 under Bernoulli MCAR** | | | **Scenario 2 under Bernoulli MCAR** | | | **Scenario 1 under Systematic MCAR** | | | **Scenario 3 with square root transform** | | | **Scenario 3 with no transform** | | |
| **π = proportion missing** | | **Estimate** | **Width 95% CI** | **CI Coverage (%)** | **Estimate** | **Width 95% CI** | **CI Coverage (%)** | **Estimate** | **Width 95% CI** | **CI Coverage (%)** | **Estimate** | **Width 95% CI** | **CI Coverage (%)** | **Estimate** | **Width 95% CI** | **CI Coverage (%)** |
| **Expected** |  | **0.919** | **NA** | **95.0** | **0.498** | **NA** | **95.0** | **0.919** | **NA** | **95.0** | **0.917** | **NA** | **95.0** | **0.917** | **NA** | **95.0** |
| **π = 0.95** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Full data | | 0.919 | 0.014 | 95.6 | 0.497 | 0.066 | 95.1 | 0.919 | 0.014 | 95.5 | 0.914 | 0.014 | 87.6 | 0.914 | 0.014 | 87.6 |
| complete case | | 0.918 | 0.064 | 95.5 | 0.495 | 0.299 | 95.3 | 0.920 | 0.062 | 99.0 | 0.914 | 0.067 | 94.0 | 0.914 | 0.067 | 94.0 |
| MI | | 0.918 | 0.050 | 95.1 | 0.493 | 0.283 | 94.3 | 0.918 | 0.050 | 94.6 | 0.916 | 0.051 | 93.9 | 0.913 | 0.053 | 90.9 |
| Stochastic CR | | 0.919 | 0.014 | 42.6 | 0.495 | 0.066 | 36.8 | 0.919 | 0.014 | 39.2 | 0.914 | 0.014 | 41.3 | 0.914 | 0.014 | 37.1 |
| AE | | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 |
| **π = 0.90** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Full data | | 0.919 | 0.014 | 95.6 | 0.498 | 0.066 | 94.6 | 0.919 | 0.014 | 94.5 | 0.914 | 0.014 | 85.6 | 0.914 | 0.014 | 85.6 |
| complete case | | 0.918 | 0.044 | 94.5 | 0.498 | 0.209 | 94.7 | 0.919 | 0.044 | 98.4 | 0.913 | 0.047 | 91.9 | 0.913 | 0.047 | 91.9 |
| MI | | 0.918 | 0.035 | 94.2 | 0.497 | 0.199 | 93.5 | 0.918 | 0.035 | 94.0 | 0.916 | 0.036 | 95.0 | 0.913 | 0.037 | 88.5 |
| Stochastic CR | | 0.919 | 0.014 | 54.0 | 0.498 | 0.066 | 43.7 | 0.919 | 0.014 | 52.3 | 0.914 | 0.014 | 51.9 | 0.914 | 0.014 | 48.1 |
| AE | | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 |
| **π = 0.85** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Full data | | 0.919 | 0.014 | 94.4 | 0.497 | 0.066 | 96.1 | 0.919 | 0.014 | 96.2 | 0.914 | 0.014 | 87.7 | 0.914 | 0.014 | 87.7 |
| complete case | | 0.918 | 0.036 | 95.3 | 0.498 | 0.171 | 94.2 | 0.919 | 0.034 | 98.3 | 0.914 | 0.038 | 91.9 | 0.914 | 0.038 | 91.9 |
| MI | | 0.918 | 0.029 | 94.9 | 0.497 | 0.162 | 93.8 | 0.919 | 0.027 | 94.3 | 0.916 | 0.030 | 94.2 | 0.914 | 0.031 | 89.3 |
| Stochastic CR | | 0.919 | 0.014 | 62.5 | 0.498 | 0.066 | 53.8 | 0.919 | 0.014 | 66.1 | 0.914 | 0.014 | 59.9 | 0.914 | 0.014 | 54.2 |
| AE | | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 |
| **π = 0.50** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Full data | | 0.919 | 0.014 | 93.9 | 0.499 | 0.066 | 95.3 | 0.919 | 0.014 | 93.9 | 0.914 | 0.014 | 86.9 | 0.914 | 0.014 | 86.9 |
| complete case | | 0.919 | 0.019 | 94.8 | 0.498 | 0.093 | 95.6 | 0.919 | 0.019 | 97.2 | 0.914 | 0.020 | 91.8 | 0.914 | 0.020 | 91.8 |
| MI | | 0.919 | 0.017 | 94.3 | 0.498 | 0.091 | 95.2 | 0.919 | 0.017 | 94.3 | 0.917 | 0.018 | 93.6 | 0.914 | 0.018 | 88.9 |
| Stochastic CR | | 0.919 | 0.014 | 84.9 | 0.498 | 0.066 | 81.3 | 0.919 | 0.014 | 82.6 | 0.914 | 0.014 | 78.5 | 0.914 | 0.014 | 75.7 |
| AE | | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 | 1.000 | 0.000 | 0.0 |

Abbreviations: CI – Confidence Interval, NA – not applicable, MI - multiple imputation, Stochastic CR - stochastic conditional regression, AE - adjustment equation