Factorial Regression: C8 versus No. villages, No. time ... llage, CenterPt

Analysis of Variance

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Source | DF | Adj SS | Adj MS | F-Value |
| Model | 8 | 1626.94 | 203.368 | 9.02 |
| Linear | 3 | 1391.24 | 463.747 | 20.58 |
| No. villages | 1 | 441.74 | 441.740 | 19.60 |
| No. time periods | 1 | 933.72 | 933.718 | 41.43 |
| Max. visits per village | 1 | 15.78 | 15.785 | 0.70 |
| 2-Way Interactions | 3 | 185.85 | 61.950 | 2.75 |
| No. villages\*No. time periods | 1 | 8.52 | 8.516 | 0.38 |
| No. villages\*Max. visits per village | 1 | 13.65 | 13.646 | 0.61 |
| No. time periods\*Max. visits per village | 1 | 163.69 | 163.687 | 7.26 |
| 3-Way Interactions | 1 | 49.78 | 49.785 | 2.21 |
| No. villages\*No. time periods\*Max. visits per village | 1 | 49.78 | 49.785 | 2.21 |
| Curvature | 1 | 0.06 | 0.065 | 0.00 |
| Error | 29 | 653.51 | 22.535 |  |
| Total | 37 | 2280.45 |  |  |

|  |  |
| --- | --- |
| Source | P-Value |
| Model | 0.000 |
| Linear | 0.000 |
| No. villages | 0.000 |
| No. time periods | 0.000 |
| Max. visits per village | 0.409 |
| 2-Way Interactions | 0.061 |
| No. villages\*No. time periods | 0.544 |
| No. villages\*Max. visits per village | 0.443 |
| No. time periods\*Max. visits per village | 0.012 |
| 3-Way Interactions | 0.148 |
| No. villages\*No. time periods\*Max. visits per village | 0.148 |
| Curvature | 0.958 |
| Error |  |
| Total |  |

Model Summary

|  |  |  |  |
| --- | --- | --- | --- |
| S | R-sq | R-sq(adj) | R-sq(pred) |
| 4.74708 | 71.34% | 63.44% | 49.81% |

Coded Coefficients

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Term | Effect | Coef | SE Coef | T-Value |
| Constant |  | 13.286 | 0.839 | 15.83 |
| No. villages | -7.431 | -3.715 | 0.839 | -4.43 |
| No. time periods | 10.803 | 5.402 | 0.839 | 6.44 |
| Max. visits per village | 1.405 | 0.702 | 0.839 | 0.84 |
| No. villages\*No. time periods | -1.032 | -0.516 | 0.839 | -0.61 |
| No. villages\*Max. visits per village | -1.306 | -0.653 | 0.839 | -0.78 |
| No. time periods\*Max. visits per village | 4.523 | 2.262 | 0.839 | 2.70 |
| No. villages\*No. time periods\*Max. visits per village | -2.495 | -1.247 | 0.839 | -1.49 |
| Ct Pt |  | -0.11 | 2.11 | -0.05 |

|  |  |  |
| --- | --- | --- |
| Term | P-Value | VIF |
| Constant | 0.000 |  |
| No. villages | 0.000 | 1.00 |
| No. time periods | 0.000 | 1.00 |
| Max. visits per village | 0.409 | 1.00 |
| No. villages\*No. time periods | 0.544 | 1.00 |
| No. villages\*Max. visits per village | 0.443 | 1.00 |
| No. time periods\*Max. visits per village | 0.012 | 1.00 |
| No. villages\*No. time periods\*Max. visits per village | 0.148 | 1.00 |
| Ct Pt | 0.958 | 1.00 |

Regression Equation in Uncoded Units

|  |  |  |
| --- | --- | --- |
| C8 | = | 38.6 - 1.64 No. villages - 1.58 No. time periods - 9.35 Max. visits per village + 0.0922 No. villages\*No. time periods + 0.368 No. villages\*Max. visits per village + 0.858 No. time periods\*Max. visits per village - 0.0356 No. villages\*No. time periods\*Max. visits per village - 0.11 Ct Pt |

Alias Structure

|  |  |
| --- | --- |
| Factor | Name |
| A | No. villages |
| B | No. time periods |
| C | Max. visits per village |

|  |
| --- |
| Aliases |
| I |
| A |
| B |
| C |
| AB |
| AC |
| BC |
| ABC |

Fits and Diagnostics for Unusual Observations

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Obs | C8 | Fit | Resid | Std Resid |  |
| 11 | 18.88 | 27.78 | -8.91 | -2.17 | R |
| 35 | 37.49 | 27.78 | 9.70 | 2.36 | R |

*R  Large residual*





