Data written to the working file.22 variables and 2938 cases written.Variable: Country Type: String Format : A52Variable: Year Type: Number Format : F4Variable: Status Type: String Format : A10Variable: Lifeexpectancy Type: Number Format : F4.1 One or more values were set to system-missing.Variable: AdultMortality Type: Number Format : F3 One or more values were set to system-missing.Variable: infantdeaths Type: Number Format : F4Variable: Alcohol Type: Number Format : F5.2 One or more values were set to system-missing.Variable: percentageexpenditure Type: Number Format : F13.9Variable: HepatitisB Type: Number Format : F2 One or more values were set to system-missing.Variable: Measles Type: Number Format : F6Variable: BMI Type: Number Format : F4.1 One or more values were set to system-missing.Variable: underfivedeaths Type: Number Format : F4Variable: Polio Type: Number Format : F2 One or more values were set to system-missing.Variable: Totalexpenditure Type: Number Format : F5.2 One or more values were set to system-missing.Variable: Diphtheria Type: Number Format : F2 One or more values were set to system-missing.Variable: HIVAIDS Type: Number Format : F4.1Variable: GDP Type: Number Format : F12.7 One or more values were set to system-missing.Variable: Population Type: Number Format : F11.2 One or more values were set to system-missing.Variable: thinness119years Type: Number Format : F4.1 One or more values were set to system-missing.Variable: thinness59years Type: Number Format : F4.1 One or more values were set to system-missing.Variable: Incomecompositionofresources Type: Number Format : F5.3 One or more values were set to system-missing.Variable: Schooling Type: Number Format : F4.1 One or more values were set to system-missing.Substitute the following to build syntax for these data. /VARIABLES= Country A52 Year F4 Status A10 Lifeexpectancy F4.1 AdultMortality F3 infantdeaths F4 Alcohol F5.2 percentageexpenditure F13.9 HepatitisB F2 Measles F6 BMI F4.1 underfivedeaths F4 Polio F2 Totalexpenditure F5.2 Diphtheria F2 HIVAIDS F4.1 GDP F12.7 Population F11.2 thinness119years F4.1 thinness59years F4.1 Incomecompositionofresources F5.3 Schooling F4.1

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 09-SEP-2024 21:23:46 |
| Comments | |  |
| Input | Data | C:\Users\Jackie\Desktop\Kaggle Dataset.csv |
| Active Dataset | DataSet4 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 1649 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing. |
| Cases Used | Statistics are based on all cases with valid data for all variables in the model. |
| Syntax | | GLM Lifeexpectancy AdultMortality BY Status GDPGROUP /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /SAVE=PRED ZRESID /PLOT=PROFILE(Status GDPGROUP) TYPE=BAR ERRORBAR=NO MEANREFERENCE=NO /EMMEANS=TABLES(OVERALL) /EMMEANS=TABLES(Status) /EMMEANS=TABLES(GDPGROUP) /EMMEANS=TABLES(Status\*GDPGROUP) /CRITERIA=ALPHA(.05) /DESIGN= Status GDPGROUP Status\*GDPGROUP. |
| Resources | Processor Time | 00:00:06.11 |
| Elapsed Time | 00:00:04.39 |
| Variables Created or Modified | PRE\_1 | Predicted Value for Lifeexpectancy |
| PRE\_2 | Predicted Value for AdultMortality |
| ZRE\_1 | Standardized Residual for Lifeexpectancy |
| ZRE\_2 | Standardized Residual for AdultMortality |

|  |  |  |  |
| --- | --- | --- | --- |
| **Between-Subjects Factors** | | | |
|  | | Value Label | N |
| Status | 1 | Developing | 1407 |
| 2 | Developed | 242 |
| GDP (Binned) | 2 | 1.6500001 - 11918.7590000 | 1452 |
| 3 | 11918.7590001 - 23835.8680000 | 99 |
| 4 | 23835.8680001 - 35752.9770000 | 38 |
| 5 | 35752.9770001 - 47670.0860000 | 30 |
| 6 | 47670.0860001 - 59587.1950000 | 18 |
| 7 | 59587.1950001 - 71504.3040000 | 6 |
| 8 | 71504.3040001 - 83421.4130000 | 1 |
| 9 | 83421.4130001 - 95338.5220000 | 1 |
| 11 | 107255.6310001+ | 4 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests**a | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df | Sig. |
| Intercept | Pillai's Trace | .849 | 4602.467b | 2.000 | 1634.000 | <.001 |
| Wilks' Lambda | .151 | 4602.467b | 2.000 | 1634.000 | <.001 |
| Hotelling's Trace | 5.633 | 4602.467b | 2.000 | 1634.000 | <.001 |
| Roy's Largest Root | 5.633 | 4602.467b | 2.000 | 1634.000 | <.001 |
| Status | Pillai's Trace | .001 | 1.174b | 2.000 | 1634.000 | .309 |
| Wilks' Lambda | .999 | 1.174b | 2.000 | 1634.000 | .309 |
| Hotelling's Trace | .001 | 1.174b | 2.000 | 1634.000 | .309 |
| Roy's Largest Root | .001 | 1.174b | 2.000 | 1634.000 | .309 |
| GDPGROUP | Pillai's Trace | .069 | 7.324 | 16.000 | 3270.000 | <.001 |
| Wilks' Lambda | .931 | 7.454b | 16.000 | 3268.000 | <.001 |
| Hotelling's Trace | .074 | 7.584 | 16.000 | 3266.000 | <.001 |
| Roy's Largest Root | .074 | 15.150c | 8.000 | 1635.000 | <.001 |
| Status \* GDPGROUP | Pillai's Trace | .036 | 7.416 | 8.000 | 3270.000 | <.001 |
| Wilks' Lambda | .964 | 7.477b | 8.000 | 3268.000 | <.001 |
| Hotelling's Trace | .037 | 7.537 | 8.000 | 3266.000 | <.001 |
| Roy's Largest Root | .036 | 14.907c | 4.000 | 1635.000 | <.001 |
| a. Design: Intercept + Status + GDPGROUP + Status \* GDPGROUP | | | | | | |
| b. Exact statistic | | | | | | |
| c. The statistic is an upper bound on F that yields a lower bound on the significance level. | | | | | | |

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| --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | |
| Source | Dependent Variable | Type III Sum of Squares | df | Mean Square | F |
| Corrected Model | Lifeexpectancy | 35587.767a | 13 | 2737.521 | 48.681 |
| AdultMortality | 2638846.850b | 13 | 202988.219 | 14.281 |
| Intercept | Lifeexpectancy | 264079.808 | 1 | 264079.808 | 4696.141 |
| AdultMortality | 312005.850 | 1 | 312005.850 | 21.951 |
| Status | Lifeexpectancy | 124.440 | 1 | 124.440 | 2.213 |
| AdultMortality | 22754.818 | 1 | 22754.818 | 1.601 |
| GDPGROUP | Lifeexpectancy | 6573.037 | 8 | 821.630 | 14.611 |
| AdultMortality | 453497.298 | 8 | 56687.162 | 3.988 |
| Status \* GDPGROUP | Lifeexpectancy | 3046.657 | 4 | 761.664 | 13.545 |
| AdultMortality | 148245.820 | 4 | 37061.455 | 2.607 |
| Error | Lifeexpectancy | 91941.544 | 1635 | 56.233 |  |
| AdultMortality | 23239203.725 | 1635 | 14213.580 |  |
| Total | Lifeexpectancy | 8047362.010 | 1649 |  |  |
| AdultMortality | 72538783.000 | 1649 |  |  |
| Corrected Total | Lifeexpectancy | 127529.311 | 1648 |  |  |
| AdultMortality | 25878050.575 | 1648 |  |  |

|  |  |  |
| --- | --- | --- |
| **Tests of Between-Subjects Effects** | | |
| Source | Dependent Variable | Sig. |
| Corrected Model | Lifeexpectancy | <.001 |
| AdultMortality | <.001 |
| Intercept | Lifeexpectancy | <.001 |
| AdultMortality | <.001 |
| Status | Lifeexpectancy | .137 |
| AdultMortality | .206 |
| GDPGROUP | Lifeexpectancy | <.001 |
| AdultMortality | <.001 |
| Status \* GDPGROUP | Lifeexpectancy | <.001 |
| AdultMortality | .034 |
| Error | Lifeexpectancy |  |
| AdultMortality |  |
| Total | Lifeexpectancy |  |
| AdultMortality |  |
| Corrected Total | Lifeexpectancy |  |
| AdultMortality |  |
|  |  |  | |  |  |  |
|  |  |  | |  |  |  |

|  |
| --- |
| a. R Squared = .279 (Adjusted R Squared = .273) |
| b. R Squared = .102 (Adjusted R Squared = .095) |

**Estimated Marginal Means**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1. Grand Mean** | | | | |
| Dependent Variable | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| Lifeexpectancy | 79.424a | .971 | 77.520 | 81.328 |
| AdultMortality | 82.977a | 15.435 | 52.703 | 113.251 |
| a. Based on modified population marginal mean. | | | | |

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| --- | --- | --- | --- | --- | --- |
| **2. Status** | | | | | |
| Dependent Variable | Status | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| Lifeexpectancy | Developing | 77.903a | 1.240 | 75.472 | 80.334 |
| Developed | 80.269 | 1.344 | 77.633 | 82.905 |
| AdultMortality | Developing | 101.517a | 19.707 | 62.863 | 140.171 |
| Developed | 72.677 | 21.368 | 30.765 | 114.589 |
| a. Based on modified population marginal mean. | | | | | |

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| --- | --- | --- | --- | --- | --- |
| **3. GDP (Binned)** | | | | | |
| Dependent Variable | GDP (Binned) | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| Lifeexpectancy | 1.6500001 - 11918.7590000 | 72.261 | .355 | 71.566 | 72.957 |
| 11918.7590001 - 23835.8680000 | 76.948 | .754 | 75.470 | 78.427 |
| 23835.8680001 - 35752.9770000 | 81.013 | 1.261 | 78.540 | 83.486 |
| 35752.9770001 - 47670.0860000 | 82.366 | 1.421 | 79.580 | 85.153 |
| 47670.0860001 - 59587.1950000 | 82.125 | 2.812 | 76.609 | 87.641 |
| 59587.1950001 - 71504.3040000 | 81.633a | 3.061 | 75.629 | 87.638 |
| 71504.3040001 - 83421.4130000 | 78.700a | 7.499 | 63.992 | 93.408 |
| 83421.4130001 - 95338.5220000 | 79.400a | 7.499 | 64.692 | 94.108 |
| 107255.6310001+ | 82.775a | 3.749 | 75.421 | 90.129 |
| AdultMortality | 1.6500001 - 11918.7590000 | 142.276 | 5.639 | 131.216 | 153.337 |
| 11918.7590001 - 23835.8680000 | 103.677 | 11.983 | 80.174 | 127.180 |
| 23835.8680001 - 35752.9770000 | 63.592 | 20.047 | 24.272 | 102.912 |
| 35752.9770001 - 47670.0860000 | 64.000 | 22.584 | 19.703 | 108.297 |
| 47670.0860001 - 59587.1950000 | 63.750 | 44.708 | -23.941 | 151.441 |
| 59587.1950001 - 71504.3040000 | 56.833a | 48.672 | -38.632 | 152.299 |
| 71504.3040001 - 83421.4130000 | 92.000a | 119.221 | -141.841 | 325.841 |
| 83421.4130001 - 95338.5220000 | 85.000a | 119.221 | -148.841 | 318.841 |
| 107255.6310001+ | 53.250a | 59.610 | -63.671 | 170.171 |
| a. Based on modified population marginal mean. | | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| **4. Status \* GDP (Binned)** | | | | | | |
| Dependent Variable | Status | GDP (Binned) | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| Lifeexpectancy | Developing | 1.6500001 - 11918.7590000 | 67.076 | .206 | 66.672 | 67.479 |
| 11918.7590001 - 23835.8680000 | 76.170 | 1.061 | 74.090 | 78.250 |
| 23835.8680001 - 35752.9770000 | 81.043 | 2.004 | 77.112 | 84.974 |
| 35752.9770001 - 47670.0860000 | 83.527 | 2.261 | 79.093 | 87.962 |
| 47670.0860001 - 59587.1950000 | 81.700 | 5.303 | 71.300 | 92.100 |
| 59587.1950001 - 71504.3040000 | .a | . | . | . |
| 71504.3040001 - 83421.4130000 | .a | . | . | . |
| 83421.4130001 - 95338.5220000 | .a | . | . | . |
| 107255.6310001+ | .a | . | . | . |
| Developed | 1.6500001 - 11918.7590000 | 77.447 | .679 | 76.115 | 78.778 |
| 11918.7590001 - 23835.8680000 | 77.727 | 1.071 | 75.625 | 79.828 |
| 23835.8680001 - 35752.9770000 | 80.983 | 1.531 | 77.981 | 83.986 |
| 35752.9770001 - 47670.0860000 | 81.205 | 1.720 | 77.831 | 84.580 |
| 47670.0860001 - 59587.1950000 | 82.550 | 1.875 | 78.873 | 86.227 |
| 59587.1950001 - 71504.3040000 | 81.633 | 3.061 | 75.629 | 87.638 |
| 71504.3040001 - 83421.4130000 | 78.700 | 7.499 | 63.992 | 93.408 |
| 83421.4130001 - 95338.5220000 | 79.400 | 7.499 | 64.692 | 94.108 |
| 107255.6310001+ | 82.775 | 3.749 | 75.421 | 90.129 |
| AdultMortality | Developing | 1.6500001 - 11918.7590000 | 187.282 | 3.269 | 180.870 | 193.694 |
| 11918.7590001 - 23835.8680000 | 123.660 | 16.860 | 90.590 | 156.730 |
| 23835.8680001 - 35752.9770000 | 63.143 | 31.863 | .646 | 125.640 |
| 35752.9770001 - 47670.0860000 | 66.000 | 35.946 | -4.506 | 136.506 |
| 47670.0860001 - 59587.1950000 | 67.500 | 84.302 | -97.851 | 232.851 |
| 59587.1950001 - 71504.3040000 | .a | . | . | . |
| 71504.3040001 - 83421.4130000 | .a | . | . | . |
| 83421.4130001 - 95338.5220000 | .a | . | . | . |
| 107255.6310001+ | .a | . | . | . |
| Developed | 1.6500001 - 11918.7590000 | 97.270 | 10.794 | 76.099 | 118.441 |
| 11918.7590001 - 23835.8680000 | 83.694 | 17.032 | 50.288 | 117.100 |
| 23835.8680001 - 35752.9770000 | 64.042 | 24.336 | 16.309 | 111.774 |
| 35752.9770001 - 47670.0860000 | 62.000 | 27.351 | 8.353 | 115.647 |
| 47670.0860001 - 59587.1950000 | 60.000 | 29.805 | 1.540 | 118.460 |
| 59587.1950001 - 71504.3040000 | 56.833 | 48.672 | -38.632 | 152.299 |
| 71504.3040001 - 83421.4130000 | 92.000 | 119.221 | -141.841 | 325.841 |
| 83421.4130001 - 95338.5220000 | 85.000 | 119.221 | -148.841 | 318.841 |
| 107255.6310001+ | 53.250 | 59.610 | -63.671 | 170.171 |
| a. This level combination of factors is not observed, thus the corresponding population marginal mean is not estimable. | | | | | | |

**Profile Plots**

**Lifeexpectancy**

img.emf

img.emf

**AdultMortality**

img.emf

img.emf