**Note: Need to bring this specific model into this document from the original stats output:**

* WS1, P2+P3, Colony, Mass, Reprostage2, Mass\*Reprostage2, no outlier, no PG390
* Code has now been written and needs to be run by Tim (7/18/22)
* Output has now been added to this document (8/4/22) on Pages 60-63

**NOTE:**

* **Consider only the Type III SS Variable and the LS Means table** 
  + **Green highlight p-values less than or equal to 0.054**
  + **Orange highlight p-values that are between 0.055 and 0.12**

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# Section 1: WS1 P0+P1

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 20 |
| **Number of Observations Used** | 10 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 105.1916709 | 52.5958355 | 0.79 | 0.4887 |
| **Error** | 7 | 463.3570195 | 66.1938599 |  |  |
| **Corrected Total** | 9 | 568.5486904 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.185018 | 45.88707 | 8.135961 | 17.73040 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 105.1916709 | 52.5958355 | 0.79 | 0.4887 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 105.1916709 | 52.5958355 | 0.79 | 0.4887 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 16.45820000 | B | 3.63851233 | 4.52 | 0.0027 |
| **Colony Ernst Barn** | 7.71180000 | B | 6.80703327 | 1.13 | 0.2946 |
| **Colony Howland Barn** | -0.90053333 | B | 5.94166576 | -0.15 | 0.8838 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 24.1700000 | 1 |
| **Howland Barn** | 15.5576667 | 2 |
| **Singh Barn** | 16.4582000 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.2842 | 0.2946 |
| **2** | 0.2842 |  | 0.8838 |
| **3** | 0.2946 | 0.8838 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 19 |
| **Number of Observations Used** | 9 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 18.8116708 | 9.4058354 | 0.37 | 0.7060 |
| **Error** | 6 | 152.8538195 | 25.4756366 |  |  |
| **Corrected Total** | 8 | 171.6654902 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.109583 | 32.29172 | 5.047340 | 15.63044 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 18.81167076 | 9.40583538 | 0.37 | 0.7060 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 18.81167076 | 9.40583538 | 0.37 | 0.7060 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 16.45820000 | B | 2.25723887 | 7.29 | 0.0003 |
| **Colony Ernst Barn** | -4.74820000 | B | 5.52908346 | -0.86 | 0.4234 |
| **Colony Howland Barn** | -0.90053333 | B | 3.68605564 | -0.24 | 0.8151 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 11.7100000 | 1 |
| **Howland Barn** | 15.5576667 | 2 |
| **Singh Barn** | 16.4582000 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.5336 | 0.4234 |
| **2** | 0.5336 |  | 0.8151 |
| **3** | 0.4234 | 0.8151 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 20 |
| **Number of Observations Used** | 10 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 201.3211429 | 67.1070476 | 1.10 | 0.4203 |
| **Error** | 6 | 367.2275475 | 61.2045912 |  |  |
| **Corrected Total** | 9 | 568.5486904 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.354097 | 44.12386 | 7.823336 | 17.73040 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 105.1916709 | 52.5958355 | 0.86 | 0.4697 |
| **AvgBodyMass** | 1 | 96.1294720 | 96.1294720 | 1.57 | 0.2567 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 98.19091813 | 49.09545907 | 0.80 | 0.4912 |
| **AvgBodyMass** | 1 | 96.12947199 | 96.12947199 | 1.57 | 0.2567 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 43.75437849 | B | 22.05960407 | 1.98 | 0.0946 |
| **Colony Ernst Barn** | 8.25327106 | B | 6.55971686 | 1.26 | 0.2551 |
| **Colony Howland Barn** | 1.68167358 | B | 6.07352943 | 0.28 | 0.7912 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | -3.77331746 |  | 3.01083577 | -1.25 | 0.2567 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 23.8285148 | 1 |
| **Howland Barn** | 17.2569173 | 2 |
| **Singh Barn** | 15.5752437 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.4042 | 0.2551 |
| **2** | 0.4042 |  | 0.7912 |
| **3** | 0.2551 | 0.7912 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 19 |
| **Number of Observations Used** | 9 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 43.8111008 | 14.6037003 | 0.57 | 0.6580 |
| **Error** | 5 | 127.8543895 | 25.5708779 |  |  |
| **Corrected Total** | 8 | 171.6654902 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.255212 | 32.35203 | 5.056766 | 15.63044 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 18.81167076 | 9.40583538 | 0.37 | 0.7095 |
| **AvgBodyMass** | 1 | 24.99943000 | 24.99943000 | 0.98 | 0.3682 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 11.80060981 | 5.90030491 | 0.23 | 0.8020 |
| **AvgBodyMass** | 1 | 24.99943000 | 24.99943000 | 0.98 | 0.3682 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 30.97765735 | B | 14.85758092 | 2.08 | 0.0915 |
| **Colony Ernst Barn** | -3.41146257 | B | 5.70199662 | -0.60 | 0.5757 |
| **Colony Howland Barn** | 0.47300118 | B | 3.94557008 | 0.12 | 0.9092 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | -2.00711326 |  | 2.02992339 | -0.99 | 0.3682 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 12.4403662 | 1 |
| **Howland Barn** | 16.3248300 | 2 |
| **Singh Barn** | 15.8518288 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.5353 | 0.5757 |
| **2** | 0.5353 |  | 0.9092 |
| **3** | 0.5757 | 0.9092 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 21 |
| **Number of Observations Used** | 10 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 264.8848166 | 88.2949389 | 1.74 | 0.2571 |
| **Error** | 6 | 303.6638738 | 50.6106456 |  |  |
| **Corrected Total** | 9 | 568.5486904 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.465896 | 40.12383 | 7.114116 | 17.73040 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 105.1916709 | 52.5958355 | 1.04 | 0.4097 |
| **ReproStage2** | 1 | 159.6931456 | 159.6931456 | 3.16 | 0.1260 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 67.2608950 | 33.6304475 | 0.66 | 0.5487 |
| **ReproStage2** | 1 | 159.6931456 | 159.6931456 | 3.16 | 0.1260 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 12.58135294 | B | 3.85817107 | 3.26 | 0.0172 |
| **Colony Ernst Barn** | 6.74258824 | B | 5.97705292 | 1.13 | 0.3024 |
| **Colony Howland Barn** | 2.97631373 | B | 5.63521954 | 0.53 | 0.6163 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 9.69211765 | B | 5.45627785 | 1.78 | 0.1260 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 24.1700000 | 1 |
| **Howland Barn** | 20.4037255 | 2 |
| **Singh Barn** | 17.4274118 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.6121 | 0.3024 |
| **2** | 0.6121 |  | 0.6163 |
| **3** | 0.3024 | 0.6163 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 20 |
| **Number of Observations Used** | 9 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 32.2559004 | 10.7519668 | 0.39 | 0.7686 |
| **Error** | 5 | 139.4095898 | 27.8819180 |  |  |
| **Corrected Total** | 8 | 171.6654902 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.187900 | 33.78236 | 5.280333 | 15.63044 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 18.81167076 | 9.40583538 | 0.34 | 0.7287 |
| **ReproStage2** | 1 | 13.44422963 | 13.44422963 | 0.48 | 0.5184 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 11.57335752 | 5.78667876 | 0.21 | 0.8192 |
| **ReproStage2** | 1 | 13.44422963 | 13.44422963 | 0.48 | 0.5184 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 15.11933333 | B | 3.04860175 | 4.96 | 0.0043 |
| **Colony Ernst Barn** | -3.40933333 | B | 6.09720351 | -0.56 | 0.6002 |
| **Colony Howland Barn** | 0.43833333 | B | 4.31137395 | 0.10 | 0.9230 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 3.34716667 | B | 4.82026261 | 0.69 | 0.5184 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 13.3835833 | 1 |
| **Howland Barn** | 17.2312500 | 2 |
| **Singh Barn** | 16.7929167 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.5557 | 0.6002 |
| **2** | 0.5557 |  | 0.9230 |
| **3** | 0.6002 | 0.9230 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 21 |
| **Number of Observations Used** | 10 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 267.5158320 | 66.8789580 | 1.11 | 0.4440 |
| **Error** | 5 | 301.0328584 | 60.2065717 |  |  |
| **Corrected Total** | 9 | 568.5486904 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.470524 | 43.76263 | 7.759289 | 17.73040 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 105.1916709 | 52.5958355 | 0.87 | 0.4727 |
| **ReproStage2** | 1 | 159.6931456 | 159.6931456 | 2.65 | 0.1643 |
| **AvgBodyMass** | 1 | 2.6310154 | 2.6310154 | 0.04 | 0.8427 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 69.87423158 | 34.93711579 | 0.58 | 0.5934 |
| **ReproStage2** | 1 | 66.19468903 | 66.19468903 | 1.10 | 0.3424 |
| **AvgBodyMass** | 1 | 2.63101540 | 2.63101540 | 0.04 | 0.8427 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 19.21987890 | B | 32.03404076 | 0.60 | 0.5747 |
| **Colony Ernst Barn** | 6.98107710 | B | 6.61817907 | 1.05 | 0.3398 |
| **Colony Howland Barn** | 3.09639496 | B | 6.17305756 | 0.50 | 0.6373 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 8.53205758 | B | 8.13699696 | 1.05 | 0.3424 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | -0.85353911 |  | 4.08304043 | -0.21 | 0.8427 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage and body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 24.0927547 | 1 |
| **Howland Barn** | 20.2080726 | 2 |
| **Singh Barn** | 17.1116776 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.6355 | 0.3398 |
| **2** | 0.6355 |  | 0.6373 |
| **3** | 0.3398 | 0.6373 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage and body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 20 |
| **Number of Observations Used** | 9 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage and body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 44.0784400 | 11.0196100 | 0.35 | 0.8361 |
| **Error** | 4 | 127.5870502 | 31.8967625 |  |  |
| **Corrected Total** | 8 | 171.6654902 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.256769 | 36.13283 | 5.647722 | 15.63044 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 18.81167076 | 9.40583538 | 0.29 | 0.7595 |
| **ReproStage2** | 1 | 13.44422963 | 13.44422963 | 0.42 | 0.5516 |
| **AvgBodyMass** | 1 | 11.82253966 | 11.82253966 | 0.37 | 0.5755 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 11.53297394 | 5.76648697 | 0.18 | 0.8411 |
| **ReproStage2** | 1 | 0.26733929 | 0.26733929 | 0.01 | 0.9315 |
| **AvgBodyMass** | 1 | 11.82253966 | 11.82253966 | 0.37 | 0.5755 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 29.42547452 | B | 23.72366891 | 1.24 | 0.2826 |
| **Colony Ernst Barn** | -3.28143680 | B | 6.52481024 | -0.50 | 0.6415 |
| **Colony Howland Barn** | 0.59972658 | B | 4.61895922 | 0.13 | 0.9030 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 0.62479753 | B | 6.82466294 | 0.09 | 0.9315 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | -1.82709338 |  | 3.00108750 | -0.61 | 0.5755 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage and body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 12.6872577 | 1 |
| **Howland Barn** | 16.5684211 | 2 |
| **Singh Barn** | 15.9686945 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.5838 | 0.6415 |
| **2** | 0.5838 |  | 0.9030 |
| **3** | 0.6415 | 0.9030 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage and body mass, interaction between mass and repro stage |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 21 |
| **Number of Observations Used** | 10 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage and body mass, interaction between mass and repro stage |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 5 | 308.8270138 | 61.7654028 | 0.95 | 0.5342 |
| **Error** | 4 | 259.7216766 | 64.9304191 |  |  |
| **Corrected Total** | 9 | 568.5486904 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.543185 | 45.44704 | 8.057941 | 17.73040 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 105.1916709 | 52.5958355 | 0.81 | 0.5066 |
| **ReproStage2** | 1 | 159.6931456 | 159.6931456 | 2.46 | 0.1919 |
| **AvgBodyMass** | 1 | 2.6310154 | 2.6310154 | 0.04 | 0.8503 |
| **AvgBodyMa\*ReproStage** | 1 | 41.3111818 | 41.3111818 | 0.64 | 0.4697 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 87.84025719 | 43.92012859 | 0.68 | 0.5584 |
| **ReproStage2** | 1 | 55.80138830 | 55.80138830 | 0.86 | 0.4064 |
| **AvgBodyMass** | 1 | 12.98045492 | 12.98045492 | 0.20 | 0.6779 |
| **AvgBodyMa\*ReproStage** | 1 | 41.31118185 | 41.31118185 | 0.64 | 0.4697 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 0.13674535 | B | 40.97643959 | 0.00 | 0.9975 |
| **Colony Ernst Barn** | 8.03021127 | B | 6.99763392 | 1.15 | 0.3151 |
| **Colony Howland Barn** | 3.18879720 | B | 6.41170271 | 0.50 | 0.6450 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 57.84221990 | B | 62.39453514 | 0.93 | 0.4064 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 1.54478520 | B | 5.19806083 | 0.30 | 0.7811 |
| **AvgBodyMa\*ReproStage P0** | -7.09401003 | B | 8.89369212 | -0.80 | 0.4697 |
| **AvgBodyMa\*ReproStage P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage and body mass, interaction between mass and repro stage |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 22.1354890 | 1 |
| **Howland Barn** | 17.2940749 | 2 |
| **Singh Barn** | 14.1052777 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.5818 | 0.3151 |
| **2** | 0.5818 |  | 0.6450 |
| **3** | 0.3151 | 0.6450 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage and body mass, interaction between mass and repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 20 |
| **Number of Observations Used** | 9 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage and body mass, interaction between mass and repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 5 | 142.0719632 | 28.4143926 | 2.88 | 0.2065 |
| **Error** | 3 | 29.5935270 | 9.8645090 |  |  |
| **Corrected Total** | 8 | 171.6654902 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.827609 | 20.09400 | 3.140782 | 15.63044 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 18.81167076 | 9.40583538 | 0.95 | 0.4780 |
| **ReproStage2** | 1 | 13.44422963 | 13.44422963 | 1.36 | 0.3274 |
| **AvgBodyMass** | 1 | 11.82253966 | 11.82253966 | 1.20 | 0.3536 |
| **AvgBodyMa\*ReproStage** | 1 | 97.99352319 | 97.99352319 | 9.93 | 0.0512 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 11.69223143 | 5.84611571 | 0.59 | 0.6069 |
| **ReproStage2** | 1 | 97.23476233 | 97.23476233 | 9.86 | 0.0517 |
| **AvgBodyMass** | 1 | 45.41111537 | 45.41111537 | 4.60 | 0.1212 |
| **AvgBodyMa\*ReproStage** | 1 | 97.99352319 | 97.99352319 | 9.93 | 0.0512 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 1.04697223 | B | 15.97269075 | 0.07 | 0.9519 |
| **Colony Ernst Barn** | -3.53513988 | B | 3.62943610 | -0.97 | 0.4019 |
| **Colony Howland Barn** | 0.27957745 | B | 2.57067906 | 0.11 | 0.9203 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 77.40600459 | B | 24.65480713 | 3.14 | 0.0517 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 1.79723641 | B | 2.02674661 | 0.89 | 0.4405 |
| **AvgBodyMa\*ReproStage P0** | -11.25882582 | B | 3.57217026 | -3.15 | 0.0512 |
| **AvgBodyMa\*ReproStage P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to early p0, p1, controlling for repro stage and body mass, interaction between mass and repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 7.3351268 | 1 |
| **Howland Barn** | 11.1498441 | 2 |
| **Singh Barn** | 10.8702667 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.3701 | 0.4019 |
| **2** | 0.3701 |  | 0.9203 |
| **3** | 0.4019 | 0.9203 |  |

**XX NEW MODELS SHOULD START HERE AND BE ADDED TO THE END OF EACH SECTION (P0+P1 and P2+P3, not P0-P3)**

# Section 2: WS1 P2+P3

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 35 |
| **Number of Observations Used** | 23 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 207.599369 | 103.799685 | 2.05 | 0.1547 |
| **Error** | 20 | 1011.785207 | 50.589260 |  |  |
| **Corrected Total** | 22 | 1219.384576 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.170249 | 41.46161 | 7.112613 | 17.15470 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 207.5993691 | 103.7996846 | 2.05 | 0.1547 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 207.5993691 | 103.7996846 | 2.05 | 0.1547 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.15462350 | B | 2.51468836 | 5.23 | <.0001 |
| **Colony Ernst Barn** | 6.94625400 | B | 3.55630638 | 1.95 | **0.0649** |
| **Colony Howland Barn** | 5.20451936 | B | 3.68112683 | 1.41 | 0.1728 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 20.1008775 | 1 |
| **Howland Barn** | 18.3591429 | 2 |
| **Singh Barn** | 13.1546235 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.6412 | **0.0649** |
| **2** | 0.6412 |  | 0.1728 |
| **3** | **0.0649** | 0.1728 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 34 |
| **Number of Observations Used** | 22 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 118.8608487 | 59.4304243 | 1.77 | 0.1965 |
| **Error** | 19 | 636.2019479 | 33.4843130 |  |  |
| **Corrected Total** | 21 | 755.0627966 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.157418 | 35.72666 | 5.786563 | 16.19676 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 118.8608487 | 59.4304243 | 1.77 | 0.1965 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 118.8608487 | 59.4304243 | 1.77 | 0.1965 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.15462350 | B | 2.04585902 | 6.43 | <.0001 |
| **Colony Ernst Barn** | 4.35649650 | B | 2.99483095 | 1.45 | 0.1621 |
| **Colony Howland Barn** | 5.20451936 | B | 2.99483095 | 1.74 | **0.0984** |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 17.5111200 | 1 |
| **Howland Barn** | 18.3591429 | 2 |
| **Singh Barn** | 13.1546235 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.7869 | 0.1621 |
| **2** | 0.7869 |  | **0.0984** |
| **3** | 0.1621 | 0.0984 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 33 |
| **Number of Observations Used** | 21 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 217.4335288 | 108.7167644 | 4.76 | 0.0219 |
| **Error** | 18 | 410.9080367 | 22.8282243 |  |  |
| **Corrected Total** | 20 | 628.3415655 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.346044 | 30.48476 | 4.777889 | 15.67304 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 217.4335288 | 108.7167644 | 4.76 | 0.0219 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 217.4335288 | 108.7167644 | 4.76 | 0.0219 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 11.14885543 | B | 1.80587234 | 6.17 | <.0001 |
| **Colony Ernst Barn** | 6.36226457 | B | 2.55388915 | 2.49 | 0.0227 |
| **Colony Howland Barn** | 7.21028743 | B | 2.55388915 | 2.82 | 0.0113 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 17.5111200 | 1 |
| **Howland Barn** | 18.3591429 | 2 |
| **Singh Barn** | 11.1488554 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.7437 | 0.0227 |
| **2** | 0.7437 |  | 0.0113 |
| **3** | 0.0227 | 0.0113 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 35 |
| **Number of Observations Used** | 23 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 538.308922 | 179.436307 | 5.01 | 0.0100 |
| **Error** | 19 | 681.075654 | 35.846087 |  |  |
| **Corrected Total** | 22 | 1219.384576 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.441460 | 34.90100 | 5.987160 | 17.15470 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 207.5993691 | 103.7996846 | 2.90 | 0.0799 |
| **AvgBodyMass** | 1 | 330.7095531 | 330.7095531 | 9.23 | 0.0068 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 180.0283867 | 90.0141933 | 2.51 | **0.1077** |
| **AvgBodyMass** | 1 | 330.7095531 | 330.7095531 | 9.23 | 0.0068 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -37.74745606 | B | 16.89157639 | -2.23 | 0.0376 |
| **Colony Ernst Barn** | 6.68168184 | B | 2.99484707 | 2.23 | 0.0379 |
| **Colony Howland Barn** | 3.94350661 | B | 3.12633803 | 1.26 | 0.2224 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 6.41387047 |  | 2.11162936 | 3.04 | 0.0068 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 20.3121169 | 1 |
| **Howland Barn** | 17.5739417 | 2 |
| **Singh Barn** | 13.6304351 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.3905 | 0.0379 |
| **2** | 0.3905 |  | 0.2224 |
| **3** | 0.0379 | 0.2224 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 34 |
| **Number of Observations Used** | 22 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 412.4395996 | 137.4798665 | 7.22 | 0.0022 |
| **Error** | 18 | 342.6231970 | 19.0346221 |  |  |
| **Corrected Total** | 21 | 755.0627966 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.546232 | 26.93667 | 4.362869 | 16.19676 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 118.8608487 | 59.4304243 | 3.12 | 0.0685 |
| **AvgBodyMass** | 1 | 293.5787509 | 293.5787509 | 15.42 | 0.0010 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 86.2118491 | 43.1059246 | 2.26 | **0.1327** |
| **AvgBodyMass** | 1 | 293.5787509 | 293.5787509 | 15.42 | 0.0010 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -34.87919642 | B | 12.32774229 | -2.83 | 0.0111 |
| **Colony Ernst Barn** | 4.23436654 | B | 2.25821313 | 1.88 | **0.0771** |
| **Colony Howland Barn** | 4.01456288 | B | 2.27823786 | 1.76 | **0.0950** |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 6.05245802 |  | 1.54113827 | 3.93 | 0.0010 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 17.8064721 | 1 |
| **Howland Barn** | 17.5866684 | 2 |
| **Singh Barn** | 13.5721055 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.9264 | **0.0771** |
| **2** | 0.9264 |  | **0.0950** |
| **3** | 0.0771 | 0.0950 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for body mass, dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 33 |
| **Number of Observations Used** | 21 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for body mass, dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 347.9114705 | 115.9704902 | 7.03 | 0.0028 |
| **Error** | 17 | 280.4300950 | 16.4958879 |  |  |
| **Corrected Total** | 20 | 628.3415655 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.553698 | 25.91401 | 4.061513 | 15.67304 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 217.4335288 | 108.7167644 | 6.59 | 0.0076 |
| **AvgBodyMass** | 1 | 130.4779417 | 130.4779417 | 7.91 | 0.0120 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 132.0903316 | 66.0451658 | 4.00 | 0.0376 |
| **AvgBodyMass** | 1 | 130.4779417 | 130.4779417 | 7.91 | 0.0120 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -24.31111714 | B | 12.70144223 | -1.91 | 0.0726 |
| **Colony Ernst Barn** | 5.45797324 | B | 2.19465153 | 2.49 | 0.0236 |
| **Colony Howland Barn** | 5.49964246 | B | 2.25456734 | 2.44 | 0.0260 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 4.57042548 |  | 1.62508444 | 2.81 | 0.0120 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for body mass, dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 17.4784741 | 1 |
| **Howland Barn** | 17.5201433 | 2 |
| **Singh Barn** | 12.0205009 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.9850 | 0.0236 |
| **2** | 0.9850 |  | 0.0260 |
| **3** | 0.0236 | 0.0260 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 35 |
| **Number of Observations Used** | 23 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 595.193598 | 198.397866 | 6.04 | 0.0046 |
| **Error** | 19 | 624.190978 | 32.852157 |  |  |
| **Corrected Total** | 22 | 1219.384576 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.488110 | 33.41173 | 5.731680 | 17.15470 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 207.5993691 | 103.7996846 | 3.16 | 0.0654 |
| **ReproStage2** | 1 | 387.5942284 | 387.5942284 | 11.80 | 0.0028 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 404.7494609 | 202.3747304 | 6.16 | 0.0087 |
| **ReproStage2** | 1 | 387.5942284 | 387.5942284 | 11.80 | 0.0028 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 16.59419292 | B | 2.26037041 | 7.34 | <.0001 |
| **Colony Ernst Barn** | 9.23930028 | B | 2.94256826 | 3.14 | 0.0054 |
| **Colony Howland Barn** | 9.62682290 | B | 3.23377487 | 2.98 | 0.0077 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -9.17218512 | B | 2.67033719 | -3.43 | 0.0028 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 21.2474006 | 1 |
| **Howland Barn** | 21.6349233 | 2 |
| **Singh Barn** | 12.0081004 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.8996 | 0.0054 |
| **2** | 0.8996 |  | 0.0077 |
| **3** | 0.0054 | 0.0077 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 34 |
| **Number of Observations Used** | 22 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 325.3168813 | 108.4389604 | 4.54 | 0.0154 |
| **Error** | 18 | 429.7459153 | 23.8747731 |  |  |
| **Corrected Total** | 21 | 755.0627966 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.430847 | 30.16764 | 4.886182 | 16.19676 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 118.8608487 | 59.4304243 | 2.49 | 0.1111 |
| **ReproStage2** | 1 | 206.4560326 | 206.4560326 | 8.65 | 0.0087 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 255.2310898 | 127.6155449 | 5.35 | 0.0151 |
| **ReproStage2** | 1 | 206.4560326 | 206.4560326 | 8.65 | 0.0087 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 15.79618733 | B | 1.94711915 | 8.11 | <.0001 |
| **Colony Ernst Barn** | 6.74648282 | B | 2.65623298 | 2.54 | 0.0205 |
| **Colony Howland Barn** | 8.60081571 | B | 2.78009481 | 3.09 | 0.0063 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -7.04417021 | B | 2.39544211 | -2.94 | 0.0087 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 19.0205850 | 1 |
| **Howland Barn** | 20.8749179 | 2 |
| **Singh Barn** | 12.2741022 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.4905 | 0.0205 |
| **2** | 0.4905 |  | 0.0063 |
| **3** | 0.0205 | 0.0063 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage, dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 33 |
| **Number of Observations Used** | 21 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage, dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 353.0567357 | 117.6855786 | 7.27 | 0.0024 |
| **Error** | 17 | 275.2848298 | 16.1932253 |  |  |
| **Corrected Total** | 20 | 628.3415655 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.561887 | 25.67518 | 4.024081 | 15.67304 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 217.4335288 | 108.7167644 | 6.71 | 0.0071 |
| **ReproStage2** | 1 | 135.6232069 | 135.6232069 | 8.38 | 0.0101 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 324.4358054 | 162.2179027 | 10.02 | 0.0013 |
| **ReproStage2** | 1 | 135.6232069 | 135.6232069 | 8.38 | 0.0101 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.64437065 | B | 1.74839480 | 7.80 | <.0001 |
| **Colony Ernst Barn** | 8.02594139 | B | 2.22645678 | 3.60 | 0.0022 |
| **Colony Howland Barn** | 9.70580265 | B | 2.31736969 | 4.19 | 0.0006 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -5.82286886 | B | 2.01204034 | -2.89 | 0.0101 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage, dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 18.7588776 | 1 |
| **Howland Barn** | 20.4387389 | 2 |
| **Singh Barn** | 10.7329362 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.4495 | 0.0022 |
| **2** | 0.4495 |  | 0.0006 |
| **3** | 0.0022 | 0.0006 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 35 |
| **Number of Observations Used** | 23 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 710.160750 | 177.540188 | 6.28 | 0.0024 |
| **Error** | 18 | 509.223825 | 28.290213 |  |  |
| **Corrected Total** | 22 | 1219.384576 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.582393 | 31.00524 | 5.318854 | 17.15470 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 207.5993691 | 103.7996846 | 3.67 | 0.0461 |
| **ReproStage2** | 1 | 387.5942284 | 387.5942284 | 13.70 | 0.0016 |
| **AvgBodyMass** | 1 | 114.9671530 | 114.9671530 | 4.06 | 0.0590 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 290.8640480 | 145.4320240 | 5.14 | 0.0171 |
| **ReproStage2** | 1 | 171.8518283 | 171.8518283 | 6.07 | 0.0240 |
| **AvgBodyMass** | 1 | 114.9671530 | 114.9671530 | 4.06 | **0.0590** |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -17.59519193 | B | 17.08908879 | -1.03 | 0.3168 |
| **Colony Ernst Barn** | 8.46685585 | B | 2.75738264 | 3.07 | 0.0066 |
| **Colony Howland Barn** | 7.64610286 | B | 3.15762131 | 2.42 | 0.0262 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -6.77453450 | B | 2.74865660 | -2.46 | 0.0240 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 4.19470983 |  | 2.08081342 | 2.02 | **0.0590** |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 21.0858462 | 1 |
| **Howland Barn** | 20.2650932 | 2 |
| **Singh Barn** | 12.6189903 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.7786 | 0.0066 |
| **2** | 0.7786 |  | 0.0262 |
| **3** | 0.0066 | 0.0262 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 34 |
| **Number of Observations Used** | 22 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 470.7825781 | 117.6956445 | 7.04 | 0.0016 |
| **Error** | 17 | 284.2802184 | 16.7223658 |  |  |
| **Corrected Total** | 21 | 755.0627966 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.623501 | 25.24763 | 4.089299 | 16.19676 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 118.8608487 | 59.4304243 | 3.55 | 0.0513 |
| **ReproStage2** | 1 | 206.4560326 | 206.4560326 | 12.35 | 0.0027 |
| **AvgBodyMass** | 1 | 145.4656969 | 145.4656969 | 8.70 | 0.0090 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 139.1771220 | 69.5885610 | 4.16 | 0.0338 |
| **ReproStage2** | 1 | 58.3429786 | 58.3429786 | 3.49 | **0.0791** |
| **AvgBodyMass** | 1 | 145.4656969 | 145.4656969 | 8.70 | 0.0090 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -22.89051340 | B | 13.21770766 | -1.73 | 0.1014 |
| **Colony Ernst Barn** | 5.67399939 | B | 2.25257420 | 2.52 | 0.0221 |
| **Colony Howland Barn** | 6.28098993 | B | 2.45604322 | 2.56 | 0.0204 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -4.16499061 | B | 2.22981374 | -1.87 | 0.0791 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 4.73863706 |  | 1.60665271 | 2.95 | 0.0090 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 18.6348573 | 1 |
| **Howland Barn** | 19.2418479 | 2 |
| **Singh Barn** | 12.9608579 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.7901 | 0.0221 |
| **2** | 0.7901 |  | 0.0204 |
| **3** | 0.0221 | 0.0204 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 33 |
| **Number of Observations Used** | 21 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 407.6492572 | 101.9123143 | 7.39 | 0.0014 |
| **Error** | 16 | 220.6923083 | 13.7932693 |  |  |
| **Corrected Total** | 20 | 628.3415655 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.648770 | 23.69629 | 3.713929 | 15.67304 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 217.4335288 | 108.7167644 | 7.88 | 0.0041 |
| **ReproStage2** | 1 | 135.6232069 | 135.6232069 | 9.83 | 0.0064 |
| **AvgBodyMass** | 1 | 54.5925216 | 54.5925216 | 3.96 | 0.0640 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 189.0789944 | 94.5394972 | 6.85 | 0.0071 |
| **ReproStage2** | 1 | 59.7377867 | 59.7377867 | 4.33 | 0.0538 |
| **AvgBodyMass** | 1 | 54.5925216 | 54.5925216 | 3.96 | **0.0640** |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -12.06063066 | B | 13.02103133 | -0.93 | 0.3681 |
| **Colony Ernst Barn** | 6.92853446 | B | 2.12760584 | 3.26 | 0.0050 |
| **Colony Howland Barn** | 7.80981051 | B | 2.34148502 | 3.34 | 0.0042 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -4.21475891 | B | 2.02526464 | -2.08 | 0.0538 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 3.22428060 |  | 1.62068966 | 1.99 | 0.0640 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 18.3912520 | 1 |
| **Howland Barn** | 19.2725281 | 2 |
| **Singh Barn** | 11.4627176 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.6719 | 0.0050 |
| **2** | 0.6719 |  | 0.0042 |
| **3** | 0.0050 | 0.0042 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, interaction between mass and repro stage |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 35 |
| **Number of Observations Used** | 23 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, interaction between mass and repro stage |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 5 | 721.990096 | 144.398019 | 4.94 | 0.0057 |
| **Error** | 17 | 497.394480 | 29.258499 |  |  |
| **Corrected Total** | 22 | 1219.384576 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.592094 | 31.53138 | 5.409113 | 17.15470 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 207.5993691 | 103.7996846 | 3.55 | 0.0516 |
| **ReproStage2** | 1 | 387.5942284 | 387.5942284 | 13.25 | 0.0020 |
| **AvgBodyMass** | 1 | 114.9671530 | 114.9671530 | 3.93 | 0.0639 |
| **AvgBodyMa\*ReproStage** | 1 | 11.8293450 | 11.8293450 | 0.40 | 0.5333 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 298.6920003 | 149.3460002 | 5.10 | 0.0184 |
| **ReproStage2** | 1 | 5.7579226 | 5.7579226 | 0.20 | 0.6629 |
| **AvgBodyMass** | 1 | 119.4406322 | 119.4406322 | 4.08 | **0.0594** |
| **AvgBodyMa\*ReproStage** | 1 | 11.8293450 | 11.8293450 | 0.40 | 0.5333 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -30.05559025 | B | 26.19262623 | -1.15 | 0.2671 |
| **Colony Ernst Barn** | 8.37599413 | B | 2.80781258 | 2.98 | 0.0084 |
| **Colony Howland Barn** | 8.32648092 | B | 3.38478927 | 2.46 | 0.0249 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | 15.79477127 | B | 35.60462784 | 0.44 | 0.6629 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 5.69693881 | B | 3.17169397 | 1.80 | **0.0903** |
| **AvgBodyMa\*ReproStage P2** | -2.82348025 | B | 4.44048518 | -0.64 | 0.5333 |
| **AvgBodyMa\*ReproStage P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, interaction between mass and repro stage |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 20.5440941 | 1 |
| **Howland Barn** | 20.4945809 | 2 |
| **Singh Barn** | 12.1681000 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.9877 | 0.0084 |
| **2** | 0.9877 |  | 0.0249 |
| **3** | 0.0084 | 0.0249 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, interaction between mass and repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 34 |
| **Number of Observations Used** | 22 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, interaction between mass and repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 5 | 497.5705253 | 99.5141051 | 6.18 | 0.0023 |
| **Error** | 16 | 257.4922712 | 16.0932670 |  |  |
| **Corrected Total** | 21 | 755.0627966 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.658979 | 24.76816 | 4.011641 | 16.19676 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 118.8608487 | 59.4304243 | 3.69 | 0.0480 |
| **ReproStage2** | 1 | 206.4560326 | 206.4560326 | 12.83 | 0.0025 |
| **AvgBodyMass** | 1 | 145.4656969 | 145.4656969 | 9.04 | 0.0084 |
| **AvgBodyMa\*ReproStage** | 1 | 26.7879472 | 26.7879472 | 1.66 | 0.2153 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 155.2246674 | 77.6123337 | 4.82 | 0.0230 |
| **ReproStage2** | 1 | 20.5360126 | 20.5360126 | 1.28 | 0.2753 |
| **AvgBodyMass** | 1 | 154.4218600 | 154.4218600 | 9.60 | 0.0069 |
| **AvgBodyMa\*ReproStage** | 1 | 26.7879472 | 26.7879472 | 1.66 | 0.2153 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -41.97224256 | B | 19.66929869 | -2.13 | 0.0487 |
| **Colony Ernst Barn** | 5.42623859 | B | 2.21812543 | 2.45 | 0.0264 |
| **Colony Howland Barn** | 7.25767703 | B | 2.52552930 | 2.87 | 0.0110 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | 30.12208522 | B | 26.66545994 | 1.13 | 0.2753 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 7.03540965 | B | 2.37767910 | 2.96 | 0.0092 |
| **AvgBodyMa\*ReproStage P2** | -4.27653021 | B | 3.31469776 | -1.29 | 0.2153 |
| **AvgBodyMa\*ReproStage P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, interaction between mass and repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 17.7177937 | 1 |
| **Howland Barn** | 19.5492322 | 2 |
| **Singh Barn** | 12.2915551 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.4561 | 0.0264 |
| **2** | 0.4561 |  | 0.0110 |
| **3** | 0.0264 | 0.0110 |  |

|  |
| --- |
| **Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, interaction between mass and repro stage, dropping outlier** |
| **No BMR less than 35 and excluding PG390** |

**The GLM Procedure**

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 33 |
| **Number of Observations Used** | 21 |

|  |
| --- |
| **Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, interaction between mass and repro stage, dropping outlier** |
| **No BMR less than 35 and excluding PG390** |

**The GLM Procedure**

**Dependent Variable: bmr**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 5 | 410.3033230 | 82.0606646 | 5.65 | 0.0040 |
| **Error** | 15 | 218.0382425 | 14.5358828 |  |  |
| **Corrected Total** | 20 | 628.3415655 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.652994 | 24.32582 | 3.812595 | 15.67304 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 217.4335288 | 108.7167644 | 7.48 | 0.0056 |
| **ReproStage2** | 1 | 135.6232069 | 135.6232069 | 9.33 | 0.0080 |
| **AvgBodyMass** | 1 | 54.5925216 | 54.5925216 | 3.76 | 0.0717 |
| **AvgBodyMa\*ReproStage** | 1 | 2.6540658 | 2.6540658 | 0.18 | 0.6752 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 188.5452826 | 94.2726413 | 6.49 | 0.0093 |
| **ReproStage2** | 1 | 1.1331840 | 1.1331840 | 0.08 | 0.7839 |
| **AvgBodyMass** | 1 | 56.8452311 | 56.8452311 | 3.91 | **0.0667** |
| **AvgBodyMa\*ReproStage** | 1 | 2.6540658 | 2.6540658 | 0.18 | 0.6752 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -20.03300482 | B | 22.95160848 | -0.87 | 0.3965 |
| **Colony Ernst Barn** | 6.70431362 | B | 2.24627849 | 2.98 | 0.0093 |
| **Colony Howland Barn** | 7.99213904 | B | 2.44126946 | 3.27 | 0.0051 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | 8.00713657 | B | 28.67792561 | 0.28 | 0.7839 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 4.20672006 | B | 2.83799620 | 1.48 | 0.1590 |
| **AvgBodyMa\*ReproStage P2** | -1.52372988 | B | 3.56593031 | -0.43 | 0.6752 |
| **AvgBodyMa\*ReproStage P3** | 0.00000000 | B | . | . | . |

|  |  |
| --- | --- |
| **Note:** | The X'X matrix has been found to be singular, and a generalized inverse was used to solve the normal equations. Terms whose estimates are followed by the letter 'B' are not uniquely estimable. |

|  |
| --- |
| **Comparing colonies (2016-2019) - wingscore 1 restrict to late p2, p3, controlling for repro stage and body mass, interaction between mass and repro stage, dropping outlier** |
| **No BMR less than 35 and excluding PG390** |

**The GLM Procedure**

**Least Squares Means**

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 18.0590147 | 1 |
| **Howland Barn** | 19.3468401 | 2 |
| **Singh Barn** | 11.3547011 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.5842 | 0.0093 |
| **2** | 0.5842 |  | 0.0051 |
| **3** | 0.0093 | 0.0051 |  |

# Section 3: WS2 P0+P1

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 27 |
| **Number of Observations Used** | 19 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 30.9243030 | 15.4621515 | 0.87 | 0.4386 |
| **Error** | 16 | 284.9763223 | 17.8110201 |  |  |
| **Corrected Total** | 18 | 315.9006253 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.097893 | 30.35951 | 4.220310 | 13.90112 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 30.92430297 | 15.46215149 | 0.87 | 0.4386 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 30.92430297 | 15.46215149 | 0.87 | 0.4386 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.17406708 | B | 1.17050351 | 11.26 | <.0001 |
| **Colony Ernst Barn** | 0.55460792 | B | 3.20555589 | 0.17 | 0.8648 |
| **Colony Howland Barn** | 3.17618292 | B | 2.41305481 | 1.32 | 0.2066 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 13.7286750 | 1 |
| **Howland Barn** | 16.3502500 | 2 |
| **Singh Barn** | 13.1740671 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.4835 | 0.8648 |
| **2** | 0.4835 |  | 0.2066 |
| **3** | 0.8648 | 0.2066 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 27 |
| **Number of Observations Used** | 19 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 33.1066958 | 11.0355653 | 0.59 | 0.6338 |
| **Error** | 15 | 282.7939295 | 18.8529286 |  |  |
| **Corrected Total** | 18 | 315.9006253 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.104801 | 31.23487 | 4.341996 | 13.90112 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 30.92430297 | 15.46215149 | 0.82 | 0.4592 |
| **AvgBodyMass** | 1 | 2.18239280 | 2.18239280 | 0.12 | 0.7384 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 31.82179355 | 15.91089677 | 0.84 | 0.4494 |
| **AvgBodyMass** | 1 | 2.18239280 | 2.18239280 | 0.12 | 0.7384 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 7.939716715 | B | 15.43164386 | 0.51 | 0.6144 |
| **Colony Ernst Barn** | 0.221783004 | B | 3.44000202 | 0.06 | 0.9494 |
| **Colony Howland Barn** | 3.208251247 | B | 2.48441970 | 1.29 | 0.2161 |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **AvgBodyMass** | 0.742785228 |  | 2.18316324 | 0.34 | 0.7384 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 13.4241331 | 1 |
| **Howland Barn** | 16.4106013 | 2 |
| **Singh Barn** | 13.2023501 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.4569 | 0.9494 |
| **2** | 0.4569 |  | 0.2161 |
| **3** | 0.9494 | 0.2161 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 26 |
| **Number of Observations Used** | 19 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 37.7792208 | 12.5930736 | 0.68 | 0.5783 |
| **Error** | 15 | 278.1214045 | 18.5414270 |  |  |
| **Corrected Total** | 18 | 315.9006253 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.119592 | 30.97575 | 4.305976 | 13.90112 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 30.92430297 | 15.46215149 | 0.83 | 0.4535 |
| **ReproStage2** | 1 | 6.85491782 | 6.85491782 | 0.37 | 0.5523 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 33.38621849 | 16.69310924 | 0.90 | 0.4273 |
| **ReproStage2** | 1 | 6.85491782 | 6.85491782 | 0.37 | 0.5523 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 12.42095267 | B | 1.72058011 | 7.22 | <.0001 |
| **Colony Ernst Barn** | 0.69581687 | B | 3.27885825 | 0.21 | 0.8348 |
| **Colony Howland Barn** | 3.31739187 | B | 2.47296476 | 1.34 | 0.1997 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 1.22381091 | B | 2.01272653 | 0.61 | 0.5523 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 13.7286750 | 1 |
| **Howland Barn** | 16.3502500 | 2 |
| **Singh Barn** | 13.0328581 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.4928 | 0.8348 |
| **2** | 0.4928 |  | 0.1997 |
| **3** | 0.8348 | 0.1997 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 26 |
| **Number of Observations Used** | 19 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 37.7792208 | 12.5930736 | 0.68 | 0.5783 |
| **Error** | 15 | 278.1214045 | 18.5414270 |  |  |
| **Corrected Total** | 18 | 315.9006253 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.119592 | 30.97575 | 4.305976 | 13.90112 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 30.92430297 | 15.46215149 | 0.83 | 0.4535 |
| **ReproStage2** | 1 | 6.85491782 | 6.85491782 | 0.37 | 0.5523 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 33.38621849 | 16.69310924 | 0.90 | 0.4273 |
| **ReproStage2** | 1 | 6.85491782 | 6.85491782 | 0.37 | 0.5523 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 12.42095267 | B | 1.72058011 | 7.22 | <.0001 |
| **Colony Ernst Barn** | 0.69581687 | B | 3.27885825 | 0.21 | 0.8348 |
| **Colony Howland Barn** | 3.31739187 | B | 2.47296476 | 1.34 | 0.1997 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 1.22381091 | B | 2.01272653 | 0.61 | 0.5523 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 13.7286750 | 1 |
| **Howland Barn** | 16.3502500 | 2 |
| **Singh Barn** | 13.0328581 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.4928 | 0.8348 |
| **2** | 0.4928 |  | 0.1997 |
| **3** | 0.8348 | 0.1997 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 26 |
| **Number of Observations Used** | 19 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 42.2468425 | 10.5617106 | 0.54 | 0.7088 |
| **Error** | 14 | 273.6537828 | 19.5466988 |  |  |
| **Corrected Total** | 18 | 315.9006253 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.133735 | 31.80439 | 4.421165 | 13.90112 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 30.92430297 | 15.46215149 | 0.79 | 0.4726 |
| **ReproStage2** | 1 | 6.85491782 | 6.85491782 | 0.35 | 0.5632 |
| **AvgBodyMass** | 1 | 4.46762174 | 4.46762174 | 0.23 | 0.6400 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 35.14641563 | 17.57320781 | 0.90 | 0.4292 |
| **ReproStage2** | 1 | 9.14014677 | 9.14014677 | 0.47 | 0.5053 |
| **AvgBodyMass** | 1 | 4.46762174 | 4.46762174 | 0.23 | 0.6400 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 4.599776947 | B | 16.45462837 | 0.28 | 0.7839 |
| **Colony Ernst Barn** | 0.233394153 | B | 3.50276578 | 0.07 | 0.9478 |
| **Colony Howland Barn** | 3.390507843 | B | 2.54372069 | 1.33 | 0.2039 |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **ReproStage2 P0** | 1.449582944 | B | 2.11984055 | 0.68 | 0.5053 |
| **ReproStage2 P1** | 0.000000000 | B | . | . | . |
| **AvgBodyMass** | 1.090155094 |  | 2.28027277 | 0.48 | 0.6400 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage and body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 13.2817114 | 1 |
| **Howland Barn** | 16.4388251 | 2 |
| **Singh Barn** | 13.0483173 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.4419 | 0.9478 |
| **2** | 0.4419 |  | 0.2039 |
| **3** | 0.9478 | 0.2039 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage and body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 26 |
| **Number of Observations Used** | 19 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage and body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 42.2468425 | 10.5617106 | 0.54 | 0.7088 |
| **Error** | 14 | 273.6537828 | 19.5466988 |  |  |
| **Corrected Total** | 18 | 315.9006253 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.133735 | 31.80439 | 4.421165 | 13.90112 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 30.92430297 | 15.46215149 | 0.79 | 0.4726 |
| **ReproStage2** | 1 | 6.85491782 | 6.85491782 | 0.35 | 0.5632 |
| **AvgBodyMass** | 1 | 4.46762174 | 4.46762174 | 0.23 | 0.6400 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 35.14641563 | 17.57320781 | 0.90 | 0.4292 |
| **ReproStage2** | 1 | 9.14014677 | 9.14014677 | 0.47 | 0.5053 |
| **AvgBodyMass** | 1 | 4.46762174 | 4.46762174 | 0.23 | 0.6400 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 4.599776947 | B | 16.45462837 | 0.28 | 0.7839 |
| **Colony Ernst Barn** | 0.233394153 | B | 3.50276578 | 0.07 | 0.9478 |
| **Colony Howland Barn** | 3.390507843 | B | 2.54372069 | 1.33 | 0.2039 |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **ReproStage2 P0** | 1.449582944 | B | 2.11984055 | 0.68 | 0.5053 |
| **ReproStage2 P1** | 0.000000000 | B | . | . | . |
| **AvgBodyMass** | 1.090155094 |  | 2.28027277 | 0.48 | 0.6400 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage and body mass, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 13.2817114 | 1 |
| **Howland Barn** | 16.4388251 | 2 |
| **Singh Barn** | 13.0483173 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.4419 | 0.9478 |
| **2** | 0.4419 |  | 0.2039 |
| **3** | 0.9478 | 0.2039 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage and body mass, interaction between mass and repro stage |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 26 |
| **Number of Observations Used** | 19 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage and body mass, interaction between mass and repro stage |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 5 | 53.3165218 | 10.6633044 | 0.53 | 0.7515 |
| **Error** | 13 | 262.5841035 | 20.1987772 |  |  |
| **Corrected Total** | 18 | 315.9006253 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.168776 | 32.33053 | 4.494305 | 13.90112 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 30.92430297 | 15.46215149 | 0.77 | 0.4850 |
| **ReproStage2** | 1 | 6.85491782 | 6.85491782 | 0.34 | 0.5702 |
| **AvgBodyMass** | 1 | 4.46762174 | 4.46762174 | 0.22 | 0.6459 |
| **AvgBodyMa\*ReproStage** | 1 | 11.06967928 | 11.06967928 | 0.55 | 0.4723 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 44.19766153 | 22.09883077 | 1.09 | 0.3638 |
| **ReproStage2** | 1 | 12.18413146 | 12.18413146 | 0.60 | 0.4513 |
| **AvgBodyMass** | 1 | 12.77301812 | 12.77301812 | 0.63 | 0.4408 |
| **AvgBodyMa\*ReproStage** | 1 | 11.06967928 | 11.06967928 | 0.55 | 0.4723 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -17.78505606 | B | 34.55584192 | -0.51 | 0.6154 |
| **Colony Ernst Barn** | -0.05085873 | B | 3.58135579 | -0.01 | 0.9889 |
| **Colony Howland Barn** | 3.95205691 | B | 2.69476636 | 1.47 | 0.1663 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 30.00310599 | B | 38.63060124 | 0.78 | 0.4513 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 4.18003667 | B | 4.77431979 | 0.88 | 0.3972 |
| **AvgBodyMa\*ReproStage P0** | -3.98282888 | B | 5.38005440 | -0.74 | 0.4723 |
| **AvgBodyMa\*ReproStage P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage and body mass, interaction between mass and repro stage |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 12.6720267 | 1 |
| **Howland Barn** | 16.6749424 | 2 |
| **Singh Barn** | 12.7228855 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.3594 | 0.9889 |
| **2** | 0.3594 |  | 0.1663 |
| **3** | 0.9889 | 0.1663 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage and body mass, interaction between mass and repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 26 |
| **Number of Observations Used** | 19 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage and body mass, interaction between mass and repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 5 | 53.3165218 | 10.6633044 | 0.53 | 0.7515 |
| **Error** | 13 | 262.5841035 | 20.1987772 |  |  |
| **Corrected Total** | 18 | 315.9006253 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.168776 | 32.33053 | 4.494305 | 13.90112 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 30.92430297 | 15.46215149 | 0.77 | 0.4850 |
| **ReproStage2** | 1 | 6.85491782 | 6.85491782 | 0.34 | 0.5702 |
| **AvgBodyMass** | 1 | 4.46762174 | 4.46762174 | 0.22 | 0.6459 |
| **AvgBodyMa\*ReproStage** | 1 | 11.06967928 | 11.06967928 | 0.55 | 0.4723 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 44.19766153 | 22.09883077 | 1.09 | 0.3638 |
| **ReproStage2** | 1 | 12.18413146 | 12.18413146 | 0.60 | 0.4513 |
| **AvgBodyMass** | 1 | 12.77301812 | 12.77301812 | 0.63 | 0.4408 |
| **AvgBodyMa\*ReproStage** | 1 | 11.06967928 | 11.06967928 | 0.55 | 0.4723 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -17.78505606 | B | 34.55584192 | -0.51 | 0.6154 |
| **Colony Ernst Barn** | -0.05085873 | B | 3.58135579 | -0.01 | 0.9889 |
| **Colony Howland Barn** | 3.95205691 | B | 2.69476636 | 1.47 | 0.1663 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 30.00310599 | B | 38.63060124 | 0.78 | 0.4513 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 4.18003667 | B | 4.77431979 | 0.88 | 0.3972 |
| **AvgBodyMa\*ReproStage P0** | -3.98282888 | B | 5.38005440 | -0.74 | 0.4723 |
| **AvgBodyMa\*ReproStage P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to early p0, p1, controlling for repro stage and body mass, interaction between mass and repro stage, dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 12.6720267 | 1 |
| **Howland Barn** | 16.6749424 | 2 |
| **Singh Barn** | 12.7228855 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.3594 | 0.9889 |
| **2** | 0.3594 |  | 0.1663 |
| **3** | 0.9889 | 0.1663 |  |

# Section 4: WS2 P2+P3

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to late p2, p3 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 8 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to late p2, p3 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 22.5855772 | 22.5855772 | 0.75 | 0.4204 |
| **Error** | 6 | 181.2557524 | 30.2092921 |  |  |
| **Corrected Total** | 7 | 203.8413296 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.110800 | 37.28179 | 5.496298 | 14.74258 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 22.58557718 | 22.58557718 | 0.75 | 0.4204 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 22.58557718 | 22.58557718 | 0.75 | 0.4204 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 15.71266667 | B | 2.24385428 | 7.00 | 0.0004 |
| **Colony Ernst Barn** | -3.88034167 | B | 4.48770855 | -0.86 | 0.4204 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to late p2, p3 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 11.8323250 | 0.4204 |
| **Singh Barn** | 15.7126667 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to late p2, p3, controlling for body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 8 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to late p2, p3, controlling for body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 46.6380091 | 23.3190045 | 0.74 | 0.5223 |
| **Error** | 5 | 157.2033205 | 31.4406641 |  |  |
| **Corrected Total** | 7 | 203.8413296 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.228796 | 38.03403 | 5.607198 | 14.74258 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 22.58557718 | 22.58557718 | 0.72 | 0.4354 |
| **AvgBodyMass** | 1 | 24.05243192 | 24.05243192 | 0.77 | 0.4218 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 33.72364980 | 33.72364980 | 1.07 | 0.3478 |
| **AvgBodyMass** | 1 | 24.05243192 | 24.05243192 | 0.77 | 0.4218 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -15.74044472 | B | 36.03363677 | -0.44 | 0.6805 |
| **Colony Ernst Barn** | -4.88994771 | B | 4.72153035 | -1.04 | 0.3478 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 4.43782877 |  | 5.07384154 | 0.87 | 0.4218 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to late p2, p3, controlling for body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 11.0751205 | 0.3478 |
| **Singh Barn** | 15.9650682 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to late p2, p3, controlling for repro stage and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 8 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to late p2, p3, controlling for repro stage and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 66.9214889 | 22.3071630 | 0.65 | 0.6224 |
| **Error** | 4 | 136.9198407 | 34.2299602 |  |  |
| **Corrected Total** | 7 | 203.8413296 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.328302 | 39.68530 | 5.850638 | 14.74258 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 22.58557718 | 22.58557718 | 0.66 | 0.4622 |
| **ReproStage2** | 1 | 28.39114315 | 28.39114315 | 0.83 | 0.4140 |
| **AvgBodyMass** | 1 | 15.94476857 | 15.94476857 | 0.47 | 0.5324 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 23.43465342 | 23.43465342 | 0.68 | 0.4545 |
| **ReproStage2** | 1 | 20.28347980 | 20.28347980 | 0.59 | 0.4844 |
| **AvgBodyMass** | 1 | 15.94476857 | 15.94476857 | 0.47 | 0.5324 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -9.212174451 | B | 38.54264993 | -0.24 | 0.8228 |
| **Colony Ernst Barn** | -4.152628535 | B | 5.01876677 | -0.83 | 0.4545 |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **ReproStage2 P2** | -3.383853607 | B | 4.39585675 | -0.77 | 0.4844 |
| **ReproStage2 P3** | 0.000000000 | B | . | . | . |
| **AvgBodyMass** | 3.675878987 |  | 5.38586288 | 0.68 | 0.5324 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to late p2, p3, controlling for repro stage and body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 11.2051281 | 0.4545 |
| **Singh Barn** | 15.3577567 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to late p2, p3, controlling for repro stage and body mass, interaction between mass and repro stage |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 8 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to late p2, p3, controlling for repro stage and body mass, interaction between mass and repro stage |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 122.3796628 | 30.5949157 | 1.13 | 0.4801 |
| **Error** | 3 | 81.4616668 | 27.1538889 |  |  |
| **Corrected Total** | 7 | 203.8413296 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.600367 | 35.34618 | 5.210939 | 14.74258 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 22.58557718 | 22.58557718 | 0.83 | 0.4290 |
| **ReproStage2** | 1 | 28.39114315 | 28.39114315 | 1.05 | 0.3818 |
| **AvgBodyMass** | 1 | 15.94476857 | 15.94476857 | 0.59 | 0.4993 |
| **AvgBodyMa\*ReproStage** | 1 | 55.45817394 | 55.45817394 | 2.04 | 0.2483 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 62.91836580 | 62.91836580 | 2.32 | 0.2253 |
| **ReproStage2** | 1 | 52.61129555 | 52.61129555 | 1.94 | 0.2582 |
| **AvgBodyMass** | 1 | 0.50039656 | 0.50039656 | 0.02 | 0.9006 |
| **AvgBodyMa\*ReproStage** | 1 | 55.45817394 | 55.45817394 | 2.04 | 0.2483 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -44.2639627 | B | 42.19021767 | -1.05 | 0.3712 |
| **Colony Ernst Barn** | -7.8753604 | B | 5.17365825 | -1.52 | 0.2253 |
| **Colony Singh Barn** | 0.0000000 | B | . | . | . |
| **ReproStage2 P2** | 131.0970044 | B | 94.18229924 | 1.39 | 0.2582 |
| **ReproStage2 P3** | 0.0000000 | B | . | . | . |
| **AvgBodyMass** | 8.6558922 | B | 5.92908760 | 1.46 | 0.2404 |
| **AvgBodyMa\*ReproStage P2** | -18.8647399 | B | 13.20030778 | -1.43 | 0.2483 |
| **AvgBodyMa\*ReproStage P3** | 0.0000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 restrict to late p2, p3, controlling for repro stage and body mass, interaction between mass and repro stage |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 7.8617306 | 0.2253 |
| **Singh Barn** | 15.7370910 |  |

# Section 5: WS 1, P0-P3

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 55 |
| **Number of Observations Used** | 33 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 238.546903 | 119.273451 | 2.31 | 0.1171 |
| **Error** | 30 | 1551.696366 | 51.723212 |  |  |
| **Corrected Total** | 32 | 1790.243268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.133248 | 41.50166 | 7.191885 | 17.32915 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 238.5469029 | 119.2734514 | 2.31 | 0.1171 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 238.5469029 | 119.2734514 | 2.31 | **0.1171** |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 14.42522985 | B | 1.99467006 | 7.23 | <.0001 |
| **Colony Ernst Barn** | 6.48947215 | B | 3.02506692 | 2.15 | 0.0401 |
| **Colony Howland Barn** | 3.09347015 | B | 3.02506692 | 1.02 | 0.3147 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 20.9147020 | 1 |
| **Howland Barn** | 17.5187000 | 2 |
| **Singh Barn** | 14.4252298 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.2995 | 0.0401 |
| **2** | 0.2995 |  | 0.3147 |
| **3** | 0.0401 | 0.3147 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 dropping outliers |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 53 |
| **Number of Observations Used** | 31 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 dropping outliers |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 60.2128861 | 30.1064430 | 0.97 | 0.3913 |
| **Error** | 28 | 868.5638631 | 31.0201380 |  |  |
| **Corrected Total** | 30 | 928.7767492 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.064830 | 34.73959 | 5.569573 | 16.03235 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 60.21288610 | 30.10644305 | 0.97 | 0.3913 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 60.21288610 | 30.10644305 | 0.97 | 0.3913 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 14.42522985 | B | 1.54472148 | 9.34 | <.0001 |
| **Colony Ernst Barn** | 2.36075015 | B | 2.50273485 | 0.94 | 0.3536 |
| **Colony Howland Barn** | 3.09347015 | B | 2.34268612 | 1.32 | 0.1974 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 dropping outliers |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 16.7859800 | 1 |
| **Howland Barn** | 17.5187000 | 2 |
| **Singh Barn** | 14.4252298 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.7836 | 0.3536 |
| **2** | 0.7836 |  | 0.1974 |
| **3** | 0.3536 | 0.1974 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 dropping outliers |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 52 |
| **Number of Observations Used** | 30 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 dropping outliers |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 108.1105718 | 54.0552859 | 2.11 | 0.1409 |
| **Error** | 27 | 691.9079142 | 25.6262190 |  |  |
| **Corrected Total** | 29 | 800.0184860 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.135135 | 32.32535 | 5.062235 | 15.66026 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 108.1105718 | 54.0552859 | 2.11 | 0.1409 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 108.1105718 | 54.0552859 | 2.11 | 0.1409 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.36108233 | B | 1.46134125 | 9.14 | <.0001 |
| **Colony Ernst Barn** | 3.42489767 | B | 2.31058340 | 1.48 | 0.1498 |
| **Colony Howland Barn** | 4.15761767 | B | 2.16751936 | 1.92 | **0.0657** |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 dropping outliers |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 16.7859800 | 1 |
| **Howland Barn** | 17.5187000 | 2 |
| **Singh Barn** | 13.3610823 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.7626 | 0.1498 |
| **2** | 0.7626 |  | **0.0657** |
| **3** | 0.1498 | 0.0657 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 controlling for body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 55 |
| **Number of Observations Used** | 33 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 controlling for body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 254.199078 | 84.733026 | 1.60 | 0.2109 |
| **Error** | 29 | 1536.044190 | 52.967041 |  |  |
| **Corrected Total** | 32 | 1790.243268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.141991 | 41.99770 | 7.277846 | 17.32915 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 238.5469029 | 119.2734514 | 2.25 | 0.1233 |
| **AvgBodyMass** | 1 | 15.6521753 | 15.6521753 | 0.30 | 0.5909 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 222.2131521 | 111.1065760 | 2.10 | 0.1410 |
| **AvgBodyMass** | 1 | 15.6521753 | 15.6521753 | 0.30 | 0.5909 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 7.065088453 | B | 13.68910640 | 0.52 | 0.6097 |
| **Colony Ernst Barn** | 6.305764029 | B | 3.07982103 | 2.05 | 0.0498 |
| **Colony Howland Barn** | 2.707184587 | B | 3.14261697 | 0.86 | 0.3961 |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **AvgBodyMass** | 0.960082662 |  | 1.76613595 | 0.54 | 0.5909 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 controlling for body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 20.9037192 | 1 |
| **Howland Barn** | 17.3051398 | 2 |
| **Singh Barn** | 14.5979552 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.2810 | 0.0498 |
| **2** | 0.2810 |  | 0.3961 |
| **3** | 0.0498 | 0.3961 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 controlling for body mass, dropping outliers |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 53 |
| **Number of Observations Used** | 31 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 controlling for body mass, dropping outliers |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 118.8011210 | 39.6003737 | 1.32 | 0.2883 |
| **Error** | 27 | 809.9756283 | 29.9990973 |  |  |
| **Corrected Total** | 30 | 928.7767492 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.127911 | 34.16307 | 5.477143 | 16.03235 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 60.21288610 | 30.10644305 | 1.00 | 0.3798 |
| **AvgBodyMass** | 1 | 58.58823486 | 58.58823486 | 1.95 | 0.1736 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 32.28587284 | 16.14293642 | 0.54 | 0.5900 |
| **AvgBodyMass** | 1 | 58.58823486 | 58.58823486 | 1.95 | 0.1736 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -0.319969164 | B | 10.65993667 | -0.03 | 0.9763 |
| **Colony Ernst Barn** | 1.815998201 | B | 2.49187844 | 0.73 | 0.4724 |
| **Colony Howland Barn** | 2.319591332 | B | 2.36942675 | 0.98 | 0.3363 |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **AvgBodyMass** | 1.923415484 |  | 1.37632816 | 1.40 | 0.1736 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 controlling for body mass, dropping outliers |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 16.6314475 | 1 |
| **Howland Barn** | 17.1350407 | 2 |
| **Singh Barn** | 14.8154493 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.8481 | 0.4724 |
| **2** | 0.8481 |  | 0.3363 |
| **3** | 0.4724 | 0.3363 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 controlling for body mass, dropping outliers |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 52 |
| **Number of Observations Used** | 30 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 controlling for body mass, dropping outliers |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 114.8946315 | 38.2982105 | 1.45 | 0.2502 |
| **Error** | 26 | 685.1238545 | 26.3509175 |  |  |
| **Corrected Total** | 29 | 800.0184860 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.143615 | 32.77924 | 5.133314 | 15.66026 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 108.1105718 | 54.0552859 | 2.05 | 0.1489 |
| **AvgBodyMass** | 1 | 6.7840597 | 6.7840597 | 0.26 | 0.6162 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 79.65264883 | 39.82632441 | 1.51 | 0.2394 |
| **AvgBodyMass** | 1 | 6.78405975 | 6.78405975 | 0.26 | 0.6162 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 7.986918416 | B | 10.69481781 | 0.75 | 0.4619 |
| **Colony Ernst Barn** | 3.133114065 | B | 2.41256495 | 1.30 | 0.2055 |
| **Colony Howland Barn** | 3.780927265 | B | 2.31994792 | 1.63 | **0.1152** |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **AvgBodyMass** | 0.712753835 |  | 1.40472917 | 0.51 | 0.6162 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 1 controlling for body mass, dropping outliers |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 16.6975688 | 1 |
| **Howland Barn** | 17.3453820 | 2 |
| **Singh Barn** | 13.5644548 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.7928 | 0.2055 |
| **2** | 0.7928 |  | **0.1152** |
| **3** | 0.2055 | 0.1152 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - Wingscore 1 controlling for preg stage |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 55 |
| **Number of Observations Used** | 33 |

|  |
| --- |
| Comparing colonies (2016-2019) - Wingscore 1 controlling for preg stage |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 255.733869 | 85.244623 | 1.61 | 0.2083 |
| **Error** | 29 | 1534.509399 | 52.914117 |  |  |
| **Corrected Total** | 32 | 1790.243268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.142849 | 41.97672 | 7.274209 | 17.32915 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 238.5469029 | 119.2734514 | 2.25 | 0.1231 |
| **preg** | 1 | 17.1869663 | 17.1869663 | 0.32 | 0.5731 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 253.4238670 | 126.7119335 | 2.39 | **0.1090** |
| **preg** | 1 | 17.1869663 | 17.1869663 | 0.32 | 0.5731 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 15.40523863 | B | 2.65088419 | 5.81 | <.0001 |
| **Colony Ernst Barn** | 6.78347479 | B | 3.10287717 | 2.19 | 0.0370 |
| **Colony Howland Barn** | 3.22822136 | B | 3.06881602 | 1.05 | 0.3015 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **preg** | -1.59251428 |  | 2.79427728 | -0.57 | 0.5731 |

|  |
| --- |
| Comparing colonies (2016-2019) - Wingscore 1 controlling for preg stage |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 21.0787792 | 1 |
| **Howland Barn** | 17.5235258 | 2 |
| **Singh Barn** | 14.2953044 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.2852 | 0.0370 |
| **2** | 0.2852 |  | 0.3015 |
| **3** | 0.0370 | 0.3015 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - Wingscore 1 comparing colonies controlling for preg stage, dropping outliers |
| No BMR less than 35 only |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 53 |
| **Number of Observations Used** | 31 |

|  |
| --- |
| Comparing colonies (2016-2019) - Wingscore 1 comparing colonies controlling for preg stage, dropping outliers |
| No BMR less than 35 only |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 60.3171174 | 20.1057058 | 0.63 | 0.6050 |
| **Error** | 27 | 868.4596318 | 32.1651715 |  |  |
| **Corrected Total** | 30 | 928.7767492 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.064943 | 35.37494 | 5.671435 | 16.03235 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 60.21288610 | 30.10644305 | 0.94 | 0.4046 |
| **preg** | 1 | 0.10423134 | 0.10423134 | 0.00 | 0.9550 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 58.26865499 | 29.13432749 | 0.91 | 0.4162 |
| **preg** | 1 | 0.10423134 | 0.10423134 | 0.00 | 0.9550 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 14.34446933 | B | 2.11824810 | 6.77 | <.0001 |
| **Colony Ernst Barn** | 2.32667931 | B | 2.61784516 | 0.89 | 0.3820 |
| **Colony Howland Barn** | 3.08236558 | B | 2.39349416 | 1.29 | 0.2087 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **preg** | 0.13123584 |  | 2.30539972 | 0.06 | 0.9550 |

|  |
| --- |
| Comparing colonies (2016-2019) - Wingscore 1 comparing colonies controlling for preg stage, dropping outliers |
| No BMR less than 35 only |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 16.7642838 | 1 |
| **Howland Barn** | 17.5199700 | 2 |
| **Singh Barn** | 14.4376044 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.7833 | 0.3820 |
| **2** | 0.7833 |  | 0.2087 |
| **3** | 0.3820 | 0.2087 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - Wingscore 1 comparing colonies controlling for preg stage, dropping outliers |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 4 | Ernst Barn Howland Barn Putnam Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 52 |
| **Number of Observations Used** | 30 |

|  |
| --- |
| Comparing colonies (2016-2019) - Wingscore 1 comparing colonies controlling for preg stage, dropping outliers |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 111.5882427 | 37.1960809 | 1.40 | 0.2638 |
| **Error** | 26 | 688.4302433 | 26.4780863 |  |  |
| **Corrected Total** | 29 | 800.0184860 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.139482 | 32.85824 | 5.145686 | 15.66026 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 108.1105718 | 54.0552859 | 2.04 | 0.1501 |
| **preg** | 1 | 3.4776709 | 3.4776709 | 0.13 | 0.7200 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 111.5768124 | 55.7884062 | 2.11 | 0.1419 |
| **preg** | 1 | 3.4776709 | 3.4776709 | 0.13 | 0.7200 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.80925148 | B | 1.93281391 | 7.14 | <.0001 |
| **Colony Ernst Barn** | 3.64898224 | B | 2.42869998 | 1.50 | 0.1450 |
| **Colony Howland Barn** | 4.24725150 | B | 2.21708960 | 1.92 | **0.0665** |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **preg** | -0.76828996 |  | 2.11994314 | -0.36 | 0.7200 |

|  |
| --- |
| Comparing colonies (2016-2019) - Wingscore 1 comparing colonies controlling for preg stage, dropping outliers |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 16.9204307 | 1 |
| **Howland Barn** | 17.5187000 | 2 |
| **Singh Barn** | 13.2714485 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.8104 | 0.1450 |
| **2** | 0.8104 |  | **0.0665** |
| **3** | 0.1450 | 0.0665 |  |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass |
| Interaction between preg and colony |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **preg** | 2 | 0 1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 55 |
| **Number of Observations Used** | 33 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass |
| Interaction between preg and colony |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 6 | 361.106450 | 60.184408 | 1.09 | 0.3916 |
| **Error** | 26 | 1429.136818 | 54.966801 |  |  |
| **Corrected Total** | 32 | 1790.243268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.201708 | 42.78317 | 7.413960 | 17.32915 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 238.5469029 | 119.2734514 | 2.17 | 0.1344 |
| **preg** | 1 | 17.1869663 | 17.1869663 | 0.31 | 0.5808 |
| **AvgBodyMass** | 1 | 32.0270934 | 32.0270934 | 0.58 | 0.4521 |
| **Colony\*preg** | 2 | 73.3454875 | 36.6727437 | 0.67 | 0.5217 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 222.9369399 | 111.4684700 | 2.03 | 0.1519 |
| **preg** | 1 | 33.1966942 | 33.1966942 | 0.60 | 0.4441 |
| **AvgBodyMass** | 1 | 46.0054078 | 46.0054078 | 0.84 | 0.3687 |
| **Colony\*preg** | 2 | 73.3454875 | 36.6727437 | 0.67 | 0.5217 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -0.842054933 | B | 15.52219640 | -0.05 | 0.9572 |
| **Colony Ernst Barn** | 6.873503899 | B | 3.70783275 | 1.85 | **0.0752** |
| **Colony Howland Barn** | 4.857775371 | B | 3.85576211 | 1.26 | 0.2189 |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **preg 0** | 4.542091848 | B | 4.43812154 | 1.02 | 0.3155 |
| **preg 1** | 0.000000000 | B | . | . | . |
| **AvgBodyMass** | 1.763638801 |  | 1.92777095 | 0.91 | 0.3687 |
| **Colony\*preg Ernst Barn 0** | 0.585213933 | B | 7.22892211 | 0.08 | 0.9361 |
| **Colony\*preg Ernst Barn 1** | 0.000000000 | B | . | . | . |
| **Colony\*preg Howland Barn 0** | -6.965225524 | B | 6.70245471 | -1.04 | 0.3083 |
| **Colony\*preg Howland Barn 1** | 0.000000000 | B | . | . | . |
| **Colony\*preg Singh Barn 0** | 0.000000000 | B | . | . | . |
| **Colony\*preg Singh Barn 1** | 0.000000000 | B | . | . | . |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass |
| Interaction between preg and colony |

The GLM Procedure

Least Squares Means

| **Colony** | **preg** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- | --- |
| **Ernst Barn** | **0** | 24.9963717 | 1 |
| **Ernst Barn** | **1** | 19.8690659 | 2 |
| **Howland Barn** | **0** | 15.4302037 | 3 |
| **Howland Barn** | **1** | 17.8533374 | 4 |
| **Singh Barn** | **0** | 17.5376538 | 5 |
| **Singh Barn** | **1** | 12.9955620 | 6 |

| **Least Squares Means for effect Colony\*preg Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** | **4** | **5** | **6** |
| **1** |  | 0.3986 | 0.1742 | 0.2537 | 0.2405 | 0.0545 |
| **2** | 0.3986 |  | 0.3847 | 0.6049 | 0.6058 | **0.0752** |
| **3** | 0.1742 | 0.3847 |  | 0.6408 | 0.7084 | 0.6317 |
| **4** | 0.2537 | 0.6049 | 0.6408 |  | 0.9467 | 0.2189 |
| **5** | 0.2405 | 0.6058 | 0.7084 | 0.9467 |  | 0.3155 |
| **6** | 0.0545 | 0.0752 | 0.6317 | 0.2189 | 0.3155 |  |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass, dropping outliers |
| Interaction between preg and colony |
| No BMR less than 35 only |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **preg** | 2 | 0 1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 53 |
| **Number of Observations Used** | 31 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass, dropping outliers |
| Interaction between preg and colony |
| No BMR less than 35 only |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 6 | 231.1159829 | 38.5193305 | 1.33 | 0.2845 |
| **Error** | 24 | 697.6607664 | 29.0691986 |  |  |
| **Corrected Total** | 30 | 928.7767492 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.248839 | 33.62942 | 5.391586 | 16.03235 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 60.2128861 | 30.1064430 | 1.04 | 0.3703 |
| **preg** | 1 | 0.1042313 | 0.1042313 | 0.00 | 0.9527 |
| **AvgBodyMass** | 1 | 61.8187303 | 61.8187303 | 2.13 | 0.1577 |
| **Colony\*preg** | 2 | 108.9801352 | 54.4900676 | 1.87 | 0.1752 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 11.8028586 | 5.9014293 | 0.20 | 0.8177 |
| **preg** | 1 | 3.9881571 | 3.9881571 | 0.14 | 0.7143 |
| **AvgBodyMass** | 1 | 91.3950010 | 91.3950010 | 3.14 | **0.0889** |
| **Colony\*preg** | 2 | 108.9801352 | 54.4900676 | 1.87 | 0.1752 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -6.96542446 | B | 11.50608513 | -0.61 | 0.5506 |
| **Colony Ernst Barn** | 4.30533962 | B | 2.79055995 | 1.54 | 0.1360 |
| **Colony Howland Barn** | 4.70607927 | B | 2.80453426 | 1.68 | **0.1063** |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **preg 0** | 5.08392662 | B | 3.23351681 | 1.57 | 0.1290 |
| **preg 1** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 2.53520844 |  | 1.42977922 | 1.77 | **0.0889** |
| **Colony\*preg Ernst Barn 0** | -10.74198843 | B | 6.59712553 | -1.63 | 0.1165 |
| **Colony\*preg Ernst Barn 1** | 0.00000000 | B | . | . | . |
| **Colony\*preg Howland Barn 0** | -7.34154024 | B | 4.87608954 | -1.51 | 0.1452 |
| **Colony\*preg Howland Barn 1** | 0.00000000 | B | . | . | . |
| **Colony\*preg Singh Barn 0** | 0.00000000 | B | . | . | . |
| **Colony\*preg Singh Barn 1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass, dropping outliers |
| Interaction between preg and colony |
| No BMR less than 35 only |

The GLM Procedure

Least Squares Means

| **Colony** | **preg** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- | --- |
| **Ernst Barn** | **0** | 11.6314903 | 1 |
| **Ernst Barn** | **1** | 17.2895521 | 2 |
| **Howland Barn** | **0** | 15.4326782 | 3 |
| **Howland Barn** | **1** | 17.6902918 | 4 |
| **Singh Barn** | **0** | 18.0681391 | 5 |
| **Singh Barn** | **1** | 12.9842125 | 6 |

| **Least Squares Means for effect Colony\*preg Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** | **4** | **5** | **6** |
| **1** |  | 0.3361 | 0.5472 | 0.3044 | 0.2927 | 0.8150 |
| **2** | 0.3361 |  | 0.6223 | 0.8910 | 0.8167 | 0.1360 |
| **3** | 0.5472 | 0.6223 |  | 0.5510 | 0.5221 | 0.5088 |
| **4** | 0.3044 | 0.8910 | 0.5510 |  | 0.9127 | **0.1063** |
| **5** | 0.2927 | 0.8167 | 0.5221 | 0.9127 |  | 0.1290 |
| **6** | 0.8150 | 0.1360 | 0.5088 | 0.1063 | 0.1290 |  |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass, dropping outliers |
| Interaction between preg and colony |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **preg** | 2 | 0 1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 52 |
| **Number of Observations Used** | 30 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass, dropping outliers |
| Interaction between preg and colony |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 6 | 257.0550876 | 42.8425146 | 1.81 | 0.1405 |
| **Error** | 23 | 542.9633984 | 23.6071043 |  |  |
| **Corrected Total** | 29 | 800.0184860 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.321311 | 31.02576 | 4.858714 | 15.66026 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 108.1105718 | 54.0552859 | 2.29 | 0.1239 |
| **preg** | 1 | 3.4776709 | 3.4776709 | 0.15 | 0.7046 |
| **AvgBodyMass** | 1 | 9.6971631 | 9.6971631 | 0.41 | 0.5279 |
| **Colony\*preg** | 2 | 135.7696819 | 67.8848409 | 2.88 | 0.0768 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 29.1626608 | 14.5813304 | 0.62 | 0.5479 |
| **preg** | 1 | 2.5491534 | 2.5491534 | 0.11 | 0.7454 |
| **AvgBodyMass** | 1 | 20.7984578 | 20.7984578 | 0.88 | 0.3577 |
| **Colony\*preg** | 2 | 135.7696819 | 67.8848409 | 2.88 | **0.0768** |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 1.12167964 | B | 10.83947895 | 0.10 | 0.9185 |
| **Colony Ernst Barn** | 6.10655405 | B | 2.61134158 | 2.34 | 0.0284 |
| **Colony Howland Barn** | 6.72656066 | B | 2.64773054 | 2.54 | 0.0183 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **preg 0** | 5.98730056 | B | 2.93522688 | 2.04 | 0.0530 |
| **preg 1** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 1.29239975 |  | 1.37690082 | 0.94 | 0.3577 |
| **Colony\*preg Ernst Barn 0** | -11.71549228 | B | 5.95725638 | -1.97 | **0.0614** |
| **Colony\*preg Ernst Barn 1** | 0.00000000 | B | . | . | . |
| **Colony\*preg Howland Barn 0** | -8.51152623 | B | 4.41787169 | -1.93 | **0.0665** |
| **Colony\*preg Howland Barn 1** | 0.00000000 | B | . | . | . |
| **Colony\*preg Singh Barn 0** | 0.00000000 | B | . | . | . |
| **Colony\*preg Singh Barn 1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass, dropping outliers |
| Interaction between preg and colony |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **Colony** | **preg** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- | --- |
| **Ernst Barn** | **0** | 11.6135008 | 1 |
| **Ernst Barn** | **1** | 17.3416925 | 2 |
| **Howland Barn** | **0** | 15.4374735 | 3 |
| **Howland Barn** | **1** | 17.9616992 | 4 |
| **Singh Barn** | **0** | 17.2224391 | 5 |
| **Singh Barn** | **1** | 11.2351385 | 6 |

| **Least Squares Means for effect Colony\*preg Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** | **4** | **5** | **6** |
| **1** |  | 0.2816 | 0.5023 | 0.2349 | 0.3098 | 0.9426 |
| **2** | 0.2816 |  | 0.5756 | 0.8142 | 0.9688 | 0.0284 |
| **3** | 0.5023 | 0.5756 |  | 0.4609 | 0.6314 | 0.2236 |
| **4** | 0.2349 | 0.8142 | 0.4609 |  | 0.8138 | 0.0183 |
| **5** | 0.3098 | 0.9688 | 0.6314 | 0.8138 |  | 0.0530 |
| **6** | 0.9426 | 0.0284 | 0.2236 | 0.0183 | 0.0530 |  |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass |
| Interaction between preg and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 55 |
| **Number of Observations Used** | 33 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass |
| Interaction between preg and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 5 | 728.773308 | 145.754662 | 3.71 | 0.0110 |
| **Error** | 27 | 1061.469960 | 39.313702 |  |  |
| **Corrected Total** | 32 | 1790.243268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.407081 | 36.18217 | 6.270064 | 17.32915 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 238.5469029 | 119.2734514 | 3.03 | 0.0648 |
| **preg** | 1 | 17.1869663 | 17.1869663 | 0.44 | 0.5141 |
| **AvgBodyMass** | 1 | 32.0270934 | 32.0270934 | 0.81 | 0.3747 |
| **preg\*AvgBodyMass** | 1 | 441.0123457 | 441.0123457 | 11.22 | 0.0024 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 265.0525458 | 132.5262729 | 3.37 | 0.0493 |
| **preg** | 1 | 461.7783201 | 461.7783201 | 11.75 | 0.0020 |
| **AvgBodyMass** | 1 | 122.9956895 | 122.9956895 | 3.13 | **0.0882** |
| **preg\*AvgBodyMass** | 1 | 441.0123457 | 441.0123457 | 11.22 | 0.0024 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 45.88992199 | B | 17.22566323 | 2.66 | 0.0129 |
| **Colony Ernst Barn** | 6.95701496 | B | 2.68045726 | 2.60 | 0.0151 |
| **Colony Howland Barn** | 3.29849919 | B | 2.71320105 | 1.22 | 0.2346 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **preg** | -84.14791811 |  | 24.55266158 | -3.43 | 0.0020 |
| **AvgBodyMass** | -4.08951188 |  | 2.31205681 | -1.77 | **0.0882** |
| **preg\*AvgBodyMass** | 10.57966768 |  | 3.15877451 | 3.35 | 0.0024 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass |
| Interaction between preg and body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 21.1784352 | 1 |
| **Howland Barn** | 17.5199194 | 2 |
| **Singh Barn** | 14.2214202 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.2098 | 0.0151 |
| **2** | 0.2098 |  | 0.2346 |
| **3** | 0.0151 | 0.2346 |  |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass, dropping outliers |
| Interaction between preg and body mass |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 53 |
| **Number of Observations Used** | 31 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass, dropping outliers |
| Interaction between preg and body mass |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 5 | 417.1957001 | 83.4391400 | 4.08 | 0.0076 |
| **Error** | 25 | 511.5810492 | 20.4632420 |  |  |
| **Corrected Total** | 30 | 928.7767492 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.449188 | 28.21565 | 4.523632 | 16.03235 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 60.2128861 | 30.1064430 | 1.47 | 0.2488 |
| **preg** | 1 | 0.1042313 | 0.1042313 | 0.01 | 0.9437 |
| **AvgBodyMass** | 1 | 61.8187303 | 61.8187303 | 3.02 | 0.0945 |
| **preg\*AvgBodyMass** | 1 | 295.0598524 | 295.0598524 | 14.42 | 0.0008 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 56.9089962 | 28.4544981 | 1.39 | 0.2675 |
| **preg** | 1 | 298.3945275 | 298.3945275 | 14.58 | 0.0008 |
| **AvgBodyMass** | 1 | 50.5081187 | 50.5081187 | 2.47 | 0.1287 |
| **preg\*AvgBodyMass** | 1 | 295.0598524 | 295.0598524 | 14.42 | 0.0008 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 34.73935592 | B | 12.92097557 | 2.69 | 0.0126 |
| **Colony Ernst Barn** | 2.79130521 | B | 2.10843253 | 1.32 | 0.1975 |
| **Colony Howland Barn** | 2.90972656 | B | 1.96309513 | 1.48 | 0.1508 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **preg** | -69.29125847 |  | 18.14555441 | -3.82 | 0.0008 |
| **AvgBodyMass** | -2.70550222 |  | 1.72208474 | -1.57 | 0.1287 |
| **preg\*AvgBodyMass** | 8.81834588 |  | 2.32230517 | 3.80 | 0.0008 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass, dropping outliers |
| Interaction between preg and body mass |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 17.1646962 | 1 |
| **Howland Barn** | 17.2831176 | 2 |
| **Singh Barn** | 14.3733910 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.9572 | 0.1975 |
| **2** | 0.9572 |  | 0.1508 |
| **3** | 0.1975 | 0.1508 |  |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass, dropping outliers |
| Interaction between preg and body mass |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 52 |
| **Number of Observations Used** | 30 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass, dropping outliers |
| Interaction between preg and body mass |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 5 | 332.9795423 | 66.5959085 | 3.42 | 0.0178 |
| **Error** | 24 | 467.0389437 | 19.4599560 |  |  |
| **Corrected Total** | 29 | 800.0184860 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.416215 | 28.16903 | 4.411344 | 15.66026 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 108.1105718 | 54.0552859 | 2.78 | 0.0822 |
| **preg** | 1 | 3.4776709 | 3.4776709 | 0.18 | 0.6762 |
| **AvgBodyMass** | 1 | 9.6971631 | 9.6971631 | 0.50 | 0.4870 |
| **preg\*AvgBodyMass** | 1 | 211.6941366 | 211.6941366 | 10.88 | 0.0030 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 85.1364821 | 42.5682411 | 2.19 | 0.1341 |
| **preg** | 1 | 217.0019166 | 217.0019166 | 11.15 | 0.0027 |
| **AvgBodyMass** | 1 | 56.9172186 | 56.9172186 | 2.92 | **0.1001** |
| **preg\*AvgBodyMass** | 1 | 211.6941366 | 211.6941366 | 10.88 | 0.0030 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 35.67633076 | B | 12.61545659 | 2.83 | 0.0093 |
| **Colony Ernst Barn** | 3.55874389 | B | 2.11774464 | 1.68 | **0.1058** |
| **Colony Howland Barn** | 3.75861893 | B | 1.99490068 | 1.88 | **0.0717** |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **preg** | -61.52580211 |  | 18.42453035 | -3.34 | 0.0027 |
| **AvgBodyMass** | -2.87869631 |  | 1.68323574 | -1.71 | **0.1001** |
| **preg\*AvgBodyMass** | 7.79528772 |  | 2.36346220 | 3.30 | 0.0030 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 1 controlling for preg stage and body mass, dropping outliers |
| Interaction between preg and body mass |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 17.0171335 | 1 |
| **Howland Barn** | 17.2170085 | 2 |
| **Singh Barn** | 13.4583896 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.9260 | 0.1058 |
| **2** | 0.9260 |  | **0.0717** |
| **3** | 0.1058 | 0.0717 |  |

# Section 6: WS 2, P0-P3

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 35 |
| **Number of Observations Used** | 27 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 27.4435460 | 13.7217730 | 0.66 | 0.5242 |
| **Error** | 24 | 496.2845367 | 20.6785224 |  |  |
| **Corrected Total** | 26 | 523.7280827 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.052400 | 32.13585 | 4.547364 | 14.15044 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 27.44354596 | 13.72177298 | 0.66 | 0.5242 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 27.44354596 | 13.72177298 | 0.66 | 0.5242 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.97573011 | B | 1.04323693 | 13.40 | <.0001 |
| **Colony Ernst Barn** | -1.19523011 | B | 2.50159427 | -0.48 | 0.6371 |
| **Colony Howland Barn** | 2.37451989 | B | 2.50159427 | 0.95 | 0.3520 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 12.7805000 | 1 |
| **Howland Barn** | 16.3502500 | 2 |
| **Singh Barn** | 13.9757301 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.2779 | 0.6371 |
| **2** | 0.2779 |  | 0.3520 |
| **3** | 0.6371 | 0.3520 |  |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 controlling for body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 35 |
| **Number of Observations Used** | 27 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 controlling for body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 43.3972963 | 14.4657654 | 0.69 | 0.5659 |
| **Error** | 23 | 480.3307864 | 20.8839472 |  |  |
| **Corrected Total** | 26 | 523.7280827 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.082862 | 32.29508 | 4.569896 | 14.15044 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 27.44354596 | 13.72177298 | 0.66 | 0.5278 |
| **AvgBodyMass** | 1 | 15.95375037 | 15.95375037 | 0.76 | 0.3911 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 35.37092005 | 17.68546002 | 0.85 | 0.4417 |
| **AvgBodyMass** | 1 | 15.95375037 | 15.95375037 | 0.76 | 0.3911 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 1.629014850 | B | 14.16508317 | 0.12 | 0.9094 |
| **Colony Ernst Barn** | -1.799057981 | B | 2.60718720 | -0.69 | 0.4971 |
| **Colony Howland Barn** | 2.472434819 | B | 2.51648406 | 0.98 | 0.3361 |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **AvgBodyMass** | 1.748891712 |  | 2.00095728 | 0.87 | 0.3911 |

|  |
| --- |
| Comparing colonies (2016-2019) - wingscore 2 controlling for body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 12.2516222 | 1 |
| **Howland Barn** | 16.5231150 | 2 |
| **Singh Barn** | 14.0506802 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.2123 | 0.4971 |
| **2** | 0.2123 |  | 0.3361 |
| **3** | 0.4971 | 0.3361 |  |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 2 controlling for preg stage |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 35 |
| **Number of Observations Used** | 27 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 2 controlling for preg stage |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 41.6798773 | 13.8932924 | 0.66 | 0.5833 |
| **Error** | 23 | 482.0482054 | 20.9586176 |  |  |
| **Corrected Total** | 26 | 523.7280827 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.079583 | 32.35276 | 4.578058 | 14.15044 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 27.44354596 | 13.72177298 | 0.65 | 0.5290 |
| **preg** | 1 | 14.23633132 | 14.23633132 | 0.68 | 0.4183 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 37.69374949 | 18.84687475 | 0.90 | 0.4207 |
| **preg** | 1 | 14.23633132 | 14.23633132 | 0.68 | 0.4183 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.44839386 | B | 1.22982826 | 10.94 | <.0001 |
| **Colony Ernst Barn** | -1.50284292 | B | 2.54598639 | -0.59 | 0.5608 |
| **Colony Howland Barn** | 2.90185614 | B | 2.59848648 | 1.12 | 0.2756 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **preg** | 1.66989812 |  | 2.02615306 | 0.82 | 0.4183 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 2 controlling for preg stage |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 12.4403356 | 1 |
| **Howland Barn** | 16.8450346 | 2 |
| **Singh Barn** | 13.9431785 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.2070 | 0.5608 |
| **2** | 0.2070 |  | 0.2756 |
| **3** | 0.5608 | 0.2756 |  |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 2 controlling for preg stage |
| Interaction between preg and colony |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **preg** | 2 | 0 1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 35 |
| **Number of Observations Used** | 27 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 2 controlling for preg stage |
| Interaction between preg and colony |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 57.4960079 | 14.3740020 | 0.68 | 0.6143 |
| **Error** | 22 | 466.2320748 | 21.1923670 |  |  |
| **Corrected Total** | 26 | 523.7280827 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.109782 | 32.53268 | 4.603517 | 14.15044 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 27.44354596 | 13.72177298 | 0.65 | 0.5330 |
| **preg** | 1 | 14.23633132 | 14.23633132 | 0.67 | 0.4212 |
| **Colony\*preg** | 1 | 15.81613065 | 15.81613065 | 0.75 | 0.3970 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 24.08921629 | 12.04460815 | 0.57 | 0.5746 |
| **preg** | 1 | 0.33168860 | 0.33168860 | 0.02 | 0.9016 |
| **Colony\*preg** | 1 | 15.81613065 | 15.81613065 | 0.75 | 0.3970 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 15.71266667 | B | 1.87937787 | 8.36 | <.0001 |
| **Colony Ernst Barn** | -3.88034167 | B | 3.75875574 | -1.03 | 0.3131 |
| **Colony Howland Barn** | 3.17618292 | B | 2.63216144 | 1.21 | 0.2404 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **preg 0** | -2.53859959 | B | 2.27205705 | -1.12 | 0.2759 |
| **preg 1** | 0.00000000 | B | . | . | . |
| **Colony\*preg Ernst Barn 0** | 4.43494959 | B | 5.13367415 | 0.86 | 0.3970 |
| **Colony\*preg Ernst Barn 1** | 0.00000000 | B | . | . | . |
| **Colony\*preg Howland Barn 0** | 0.00000000 | B | . | . | . |
| **Colony\*preg Singh Barn 0** | 0.00000000 | B | . | . | . |
| **Colony\*preg Singh Barn 1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 2 controlling for preg stage |
| Interaction between preg and colony |

The GLM Procedure

Least Squares Means

| **Colony** | **preg** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- | --- |
| **Ernst Barn** | **0** | 13.7286750 | 1 |
| **Ernst Barn** | **1** | 11.8323250 | 2 |
| **Howland Barn** | **0** | 16.3502500 | 3 |
| **Singh Barn** | **0** | 13.1740671 | 4 |
| **Singh Barn** | **1** | 15.7126667 | 5 |

| **Least Squares Means for effect Colony\*preg Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** | **4** | **5** |
| **1** |  | 0.6844 | 0.5176 | 0.8754 | 0.6029 |
| **2** | 0.6844 |  | 0.2693 | 0.7049 | 0.3131 |
| **3** | 0.5176 | 0.2693 |  | 0.2404 | 0.8321 |
| **4** | 0.8754 | 0.7049 | 0.2404 |  | 0.2759 |
| **5** | 0.6029 | 0.3131 | 0.8321 | 0.2759 |  |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 2 controlling for preg stage and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |

|  |  |
| --- | --- |
| **Number of Observations Read** | 35 |
| **Number of Observations Used** | 27 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 2 controlling for preg stage and body mass |

The GLM Procedure

 Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 57.7122240 | 14.4280560 | 0.68 | 0.6124 |
| **Error** | 22 | 466.0158587 | 21.1825390 |  |  |
| **Corrected Total** | 26 | 523.7280827 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.110195 | 32.52513 | 4.602449 | 14.15044 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 27.44354596 | 13.72177298 | 0.65 | 0.5329 |
| **preg** | 1 | 14.23633132 | 14.23633132 | 0.67 | 0.4211 |
| **AvgBodyMass** | 1 | 16.03234670 | 16.03234670 | 0.76 | 0.3937 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 46.32991449 | 23.16495725 | 1.09 | 0.3525 |
| **preg** | 1 | 14.31492766 | 14.31492766 | 0.68 | 0.4199 |
| **AvgBodyMass** | 1 | 16.03234670 | 16.03234670 | 0.76 | 0.3937 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 1.069805537 | B | 14.28219674 | 0.07 | 0.9410 |
| **Colony Ernst Barn** | -2.109007408 | B | 2.65269112 | -0.80 | 0.4351 |
| **Colony Howland Barn** | 3.001467745 | B | 2.61483872 | 1.15 | 0.2634 |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **preg** | 1.674507052 |  | 2.03695488 | 0.82 | 0.4199 |
| **AvgBodyMass** | 1.753200317 |  | 2.01521784 | 0.87 | 0.3937 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 2 controlling for preg stage and body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **Ernst Barn** | 11.9092159 | 1 |
| **Howland Barn** | 17.0196911 | 2 |
| **Singh Barn** | 14.0182234 | 3 |

| **Least Squares Means for effect Colony Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.1590 | 0.4351 |
| **2** | 0.1590 |  | 0.2634 |
| **3** | 0.4351 | 0.2634 |  |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 2 controlling for preg stage and body mass |
| Interaction between preg and colony |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 3 | Ernst Barn Howland Barn Singh Barn |
| **preg** | 2 | 0 1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 35 |
| **Number of Observations Used** | 27 |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 2 controlling for preg stage and body mass |
| Interaction between preg and colony |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 5 | 70.9899573 | 14.1979915 | 0.66 | 0.6586 |
| **Error** | 21 | 452.7381254 | 21.5589584 |  |  |
| **Corrected Total** | 26 | 523.7280827 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.135547 | 32.81285 | 4.643163 | 14.15044 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 27.44354596 | 13.72177298 | 0.64 | 0.5391 |
| **preg** | 1 | 14.23633132 | 14.23633132 | 0.66 | 0.4256 |
| **AvgBodyMass** | 1 | 16.03234670 | 16.03234670 | 0.74 | 0.3982 |
| **Colony\*preg** | 1 | 13.27773334 | 13.27773334 | 0.62 | 0.4413 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 2 | 32.07242702 | 16.03621351 | 0.74 | 0.4874 |
| **preg** | 1 | 0.60311498 | 0.60311498 | 0.03 | 0.8688 |
| **AvgBodyMass** | 1 | 13.49394939 | 13.49394939 | 0.63 | 0.4377 |
| **Colony\*preg** | 1 | 13.27773334 | 13.27773334 | 0.62 | 0.4413 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 4.269913613 | B | 14.58723455 | 0.29 | 0.7726 |
| **Colony Ernst Barn** | -4.247639913 | B | 3.81944736 | -1.11 | 0.2787 |
| **Colony Howland Barn** | 3.245885760 | B | 2.65629127 | 1.22 | 0.2353 |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **preg 0** | -2.473088237 | B | 2.29311970 | -1.08 | 0.2931 |
| **preg 1** | 0.000000000 | B | . | . | . |
| **AvgBodyMass** | 1.614497785 |  | 2.04071239 | 0.79 | 0.4377 |
| **Colony\*preg Ernst Barn 0** | 4.078828636 | B | 5.19741476 | 0.78 | 0.4413 |
| **Colony\*preg Ernst Barn 1** | 0.000000000 | B | . | . | . |
| **Colony\*preg Howland Barn 0** | 0.000000000 | B | . | . | . |
| **Colony\*preg Singh Barn 0** | 0.000000000 | B | . | . | . |
| **Colony\*preg Singh Barn 1** | 0.000000000 | B | . | . | . |

|  |
| --- |
| Comparing colony (2016-2019) - wingscore 2 controlling for preg stage and body mass |
| Interaction between preg and colony |

The GLM Procedure

Least Squares Means

| **Colony** | **preg** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- | --- |
| **Ernst Barn** | **0** | 13.0951341 | 1 |
| **Ernst Barn** | **1** | 11.4893937 | 2 |
| **Howland Barn** | **0** | 16.5098311 | 3 |
| **Singh Barn** | **0** | 13.2639454 | 4 |
| **Singh Barn** | **1** | 15.7370336 | 5 |

| **Least Squares Means for effect Colony\*preg Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** | **4** | **5** |
| **1** |  | 0.7337 | 0.4192 | 0.9635 | 0.5035 |
| **2** | 0.7337 |  | 0.2311 | 0.6242 | 0.2787 |
| **3** | 0.4192 | 0.2311 |  | 0.2353 | 0.7994 |
| **4** | 0.9635 | 0.6242 | 0.2353 |  | 0.2931 |
| **5** | 0.5035 | 0.2787 | 0.7994 | 0.2931 |  |

# Section 7: Individual Colony Output

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 14 |
| **Number of Observations Used** | 7 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 244.6529445 | 122.3264723 | 1.68 | 0.2946 |
| **Error** | 4 | 290.4360812 | 72.6090203 |  |  |
| **Corrected Total** | 6 | 535.0890257 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.457219 | 45.66117 | 8.521093 | 18.66157 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 84.9597989 | 84.9597989 | 1.17 | 0.3402 |
| **ReproStage2** | 1 | 159.6931456 | 159.6931456 | 2.20 | 0.2122 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 64.4052028 | 64.4052028 | 0.89 | 0.3996 |
| **ReproStage2** | 1 | 159.6931456 | 159.6931456 | 2.20 | 0.2122 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 12.58135294 | B | 4.62121134 | 2.72 | 0.0528 |
| **Colony Ernst Barn** | 6.74258824 | B | 7.15914982 | 0.94 | 0.3996 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 9.69211765 | B | 6.53537974 | 1.48 | 0.2122 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 24.1700000 | 0.3996 |
| **Singh Barn** | 17.4274118 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 6 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 32.2320657 | 16.1160328 | 0.38 | 0.7109 |
| **Error** | 3 | 126.1817972 | 42.0605991 |  |  |
| **Corrected Total** | 5 | 158.4138628 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.203467 | 41.39582 | 6.485414 | 15.66683 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 18.78783603 | 18.78783603 | 0.45 | 0.5517 |
| **ReproStage2** | 1 | 13.44422963 | 13.44422963 | 0.32 | 0.6113 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 8.71766533 | 8.71766533 | 0.21 | 0.6798 |
| **ReproStage2** | 1 | 13.44422963 | 13.44422963 | 0.32 | 0.6113 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 15.11933333 | B | 3.74435571 | 4.04 | 0.0273 |
| **Colony Ernst Barn** | -3.40933333 | B | 7.48871142 | -0.46 | 0.6798 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 3.34716667 | B | 5.92034621 | 0.57 | 0.6113 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 13.3835833 | 0.6798 |
| **Singh Barn** | 16.7929167 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P0-P1) |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 22 |
| **Number of Observations Used** | 15 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P0-P1) |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 4.1922765 | 2.0961382 | 0.11 | 0.9009 |
| **Error** | 12 | 239.0198470 | 19.9183206 |  |  |
| **Corrected Total** | 14 | 243.2121235 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.017237 | 33.68803 | 4.462995 | 13.24801 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 0.53315591 | 0.53315591 | 0.03 | 0.8728 |
| **ReproStage2** | 1 | 3.65912057 | 3.65912057 | 0.18 | 0.6758 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 0.77613349 | 0.77613349 | 0.04 | 0.8468 |
| **ReproStage2** | 1 | 3.65912057 | 3.65912057 | 0.18 | 0.6758 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 12.55165187 | B | 1.90813609 | 6.58 | <.0001 |
| **Colony Ernst Barn** | 0.67131077 | B | 3.40080527 | 0.20 | 0.8468 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 1.01142471 | B | 2.35978023 | 0.43 | 0.6758 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P0-P1) |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 13.7286750 | 0.8468 |
| **Singh Barn** | 13.0573642 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 25 |
| **Number of Observations Used** | 16 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 575.897104 | 287.948552 | 7.16 | 0.0080 |
| **Error** | 13 | 522.784768 | 40.214213 |  |  |
| **Corrected Total** | 15 | 1098.681872 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.524171 | 38.13786 | 6.341468 | 16.62775 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 193.0017785 | 193.0017785 | 4.80 | 0.0473 |
| **ReproStage2** | 1 | 382.8953256 | 382.8953256 | 9.52 | 0.0087 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 336.4763194 | 336.4763194 | 8.37 | 0.0126 |
| **ReproStage2** | 1 | 382.8953256 | 382.8953256 | 9.52 | 0.0087 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 16.94389450 | B | 2.55632737 | 6.63 | <.0001 |
| **Colony Ernst Barn** | 9.47243467 | B | 3.27471985 | 2.89 | 0.0126 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -10.10472267 | B | 3.27471985 | -3.09 | 0.0087 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 21.3639678 | 0.0126 |
| **Singh Barn** | 11.8915332 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 24 |
| **Number of Observations Used** | 15 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 259.1965644 | 129.5982822 | 4.55 | 0.0338 |
| **Error** | 12 | 341.7554345 | 28.4796195 |  |  |
| **Corrected Total** | 14 | 600.9519989 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.431310 | 35.13795 | 5.336630 | 15.18766 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 70.8551639 | 70.8551639 | 2.49 | 0.1407 |
| **ReproStage2** | 1 | 188.3414006 | 188.3414006 | 6.61 | 0.0245 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 158.1186434 | 158.1186434 | 5.55 | 0.0363 |
| **ReproStage2** | 1 | 188.3414006 | 188.3414006 | 6.61 | 0.0245 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 15.98609578 | B | 2.18455043 | 7.32 | <.0001 |
| **Colony Ernst Barn** | 6.91830476 | B | 2.93612973 | 2.36 | 0.0363 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -7.55059276 | B | 2.93612973 | -2.57 | 0.0245 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 19.1291042 | 0.0363 |
| **Singh Barn** | 12.2107994 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 23 |
| **Number of Observations Used** | 14 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 255.6525348 | 127.8262674 | 7.37 | 0.0093 |
| **Error** | 11 | 190.8248258 | 17.3477114 |  |  |
| **Corrected Total** | 13 | 446.4773605 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.572599 | 29.06533 | 4.165058 | 14.32999 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 141.6744367 | 141.6744367 | 8.17 | 0.0156 |
| **ReproStage2** | 1 | 113.9780981 | 113.9780981 | 6.57 | 0.0264 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 209.6091644 | 209.6091644 | 12.08 | 0.0052 |
| **ReproStage2** | 1 | 113.9780981 | 113.9780981 | 6.57 | 0.0264 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.72975792 | B | 1.86870859 | 7.35 | <.0001 |
| **Colony Ernst Barn** | 8.08286623 | B | 2.32531264 | 3.48 | 0.0052 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -6.02210582 | B | 2.34940979 | -2.56 | 0.0264 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 18.8015712 | 0.0052 |
| **Singh Barn** | 10.7187050 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P2-P3) |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 8 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P2-P3) |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 50.9767203 | 25.4883602 | 0.83 | 0.4870 |
| **Error** | 5 | 152.8646093 | 30.5729219 |  |  |
| **Corrected Total** | 7 | 203.8413296 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.250080 | 37.50550 | 5.529279 | 14.74258 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 22.58557718 | 22.58557718 | 0.74 | 0.4293 |
| **ReproStage2** | 1 | 28.39114315 | 28.39114315 | 0.93 | 0.3795 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 15.24922801 | 15.24922801 | 0.50 | 0.5116 |
| **ReproStage2** | 1 | 28.39114315 | 28.39114315 | 0.93 | 0.3795 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 17.02441182 | B | 2.63598015 | 6.46 | 0.0013 |
| **Colony Ernst Barn** | -3.22446909 | B | 4.56565154 | -0.71 | 0.5116 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -3.93523545 | B | 4.08364288 | -0.96 | 0.3795 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P2-P3) |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 11.8323250 | 0.5116 |
| **Singh Barn** | 15.0567941 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 14 |
| **Number of Observations Used** | 7 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 247.9616993 | 82.6538998 | 0.86 | 0.5466 |
| **Error** | 3 | 287.1273264 | 95.7091088 |  |  |
| **Corrected Total** | 6 | 535.0890257 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.463403 | 52.42379 | 9.783103 | 18.66157 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 84.95979891 | 84.95979891 | 0.89 | 0.4156 |
| **AvgBodyMass** | 1 | 99.27847604 | 99.27847604 | 1.04 | 0.3834 |
| **ReproStage2** | 1 | 63.72342432 | 63.72342432 | 0.67 | 0.4743 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 67.55153754 | 67.55153754 | 0.71 | 0.4625 |
| **AvgBodyMass** | 1 | 3.30875473 | 3.30875473 | 0.03 | 0.8644 |
| **ReproStage2** | 1 | 63.72342432 | 63.72342432 | 0.67 | 0.4743 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 20.05449283 | B | 40.54139795 | 0.49 | 0.6548 |
| **Colony Ernst Barn** | 7.01106059 | B | 8.34531506 | 0.84 | 0.4625 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | -0.96084842 |  | 5.16772303 | -0.19 | 0.8644 |
| **ReproStage2 P0** | 8.38621160 | B | 10.27762813 | 0.82 | 0.4743 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 24.2684870 | 0.4625 |
| **Singh Barn** | 17.2574264 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 6 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 45.5141425 | 15.1713808 | 0.27 | 0.8460 |
| **Error** | 2 | 112.8997203 | 56.4498602 |  |  |
| **Corrected Total** | 5 | 158.4138628 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.287312 | 47.95680 | 7.513312 | 15.66683 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 18.78783603 | 18.78783603 | 0.33 | 0.6223 |
| **AvgBodyMass** | 1 | 26.58786672 | 26.58786672 | 0.47 | 0.5634 |
| **ReproStage2** | 1 | 0.13843974 | 0.13843974 | 0.00 | 0.9650 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 8.02719041 | 8.02719041 | 0.14 | 0.7424 |
| **AvgBodyMass** | 1 | 13.28207683 | 13.28207683 | 0.24 | 0.6756 |
| **ReproStage2** | 1 | 0.13843974 | 0.13843974 | 0.00 | 0.9650 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 30.34211006 | B | 31.68121859 | 0.96 | 0.4393 |
| **Colony Ernst Barn** | -3.27324210 | B | 8.68016101 | -0.38 | 0.7424 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | -1.94416050 |  | 4.00802624 | -0.49 | 0.6756 |
| **ReproStage2 P0** | 0.45036752 | B | 9.09427544 | 0.05 | 0.9650 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 13.0141928 | 0.7424 |
| **Singh Barn** | 16.2874349 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 22 |
| **Number of Observations Used** | 15 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 5.6514236 | 1.8838079 | 0.09 | 0.9656 |
| **Error** | 11 | 237.5606999 | 21.5964273 |  |  |
| **Corrected Total** | 14 | 243.2121235 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.023237 | 35.07843 | 4.647196 | 13.24801 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 0.53315591 | 0.53315591 | 0.02 | 0.8780 |
| **AvgBodyMass** | 1 | 0.34954800 | 0.34954800 | 0.02 | 0.9011 |
| **ReproStage2** | 1 | 4.76871967 | 4.76871967 | 0.22 | 0.6476 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 0.26227243 | 0.26227243 | 0.01 | 0.9142 |
| **AvgBodyMass** | 1 | 1.45914711 | 1.45914711 | 0.07 | 0.7997 |
| **ReproStage2** | 1 | 4.76871967 | 4.76871967 | 0.22 | 0.6476 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 7.902743723 | B | 17.99516665 | 0.44 | 0.6690 |
| **Colony Ernst Barn** | 0.406113878 | B | 3.68521188 | 0.11 | 0.9142 |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **AvgBodyMass** | 0.642524718 |  | 2.47190204 | 0.26 | 0.7997 |
| **ReproStage2 P0** | 1.208189269 | B | 2.57113590 | 0.47 | 0.6476 |
| **ReproStage2 P1** | 0.000000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 13.4791612 | 0.9142 |
| **Singh Barn** | 13.0730474 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 25 |
| **Number of Observations Used** | 16 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 684.240738 | 228.080246 | 6.60 | 0.0069 |
| **Error** | 12 | 414.441134 | 34.536761 |  |  |
| **Corrected Total** | 15 | 1098.681872 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.622783 | 35.34332 | 5.876799 | 16.62775 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 193.0017785 | 193.0017785 | 5.59 | 0.0358 |
| **AvgBodyMass** | 1 | 381.4638353 | 381.4638353 | 11.05 | 0.0061 |
| **ReproStage2** | 1 | 109.7751244 | 109.7751244 | 3.18 | 0.0999 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 252.9387970 | 252.9387970 | 7.32 | 0.0191 |
| **AvgBodyMass** | 1 | 108.3436341 | 108.3436341 | 3.14 | **0.1019** |
| **ReproStage2** | 1 | 109.7751244 | 109.7751244 | 3.18 | **0.0999** |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -21.54201335 | B | 21.85781455 | -0.99 | 0.3438 |
| **Colony Ernst Barn** | 8.38055289 | B | 3.09674718 | 2.71 | 0.0191 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 4.67949332 |  | 2.64203116 | 1.77 | 0.1019 |
| **ReproStage2 P2** | -6.50931197 | B | 3.65110162 | -1.78 | 0.0999 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 20.8180269 | 0.0191 |
| **Singh Barn** | 12.4374741 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 24 |
| **Number of Observations Used** | 15 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 425.3349802 | 141.7783267 | 8.88 | 0.0028 |
| **Error** | 11 | 175.6170187 | 15.9651835 |  |  |
| **Corrected Total** | 14 | 600.9519989 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.707769 | 26.30851 | 3.995646 | 15.18766 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 70.8551639 | 70.8551639 | 4.44 | 0.0589 |
| **AvgBodyMass** | 1 | 339.3397114 | 339.3397114 | 21.25 | 0.0008 |
| **ReproStage2** | 1 | 15.1401049 | 15.1401049 | 0.95 | 0.3511 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 81.4845313 | 81.4845313 | 5.10 | 0.0452 |
| **AvgBodyMass** | 1 | 166.1384158 | 166.1384158 | 10.41 | 0.0081 |
| **ReproStage2** | 1 | 15.1401049 | 15.1401049 | 0.95 | 0.3511 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -32.53750878 | B | 15.13064378 | -2.15 | 0.0546 |
| **Colony Ernst Barn** | 5.12310622 | B | 2.26768502 | 2.26 | 0.0452 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 5.88068578 |  | 1.82297159 | 3.23 | 0.0081 |
| **ReproStage2 P2** | -2.60922733 | B | 2.67938075 | -0.97 | 0.3511 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 18.0069528 | 0.0452 |
| **Singh Barn** | 12.8838465 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 23 |
| **Number of Observations Used** | 14 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 321.4595529 | 107.1531843 | 8.57 | 0.0041 |
| **Error** | 10 | 125.0178077 | 12.5017808 |  |  |
| **Corrected Total** | 13 | 446.4773605 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.719991 | 24.67403 | 3.535786 | 14.32999 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 141.6744367 | 141.6744367 | 11.33 | 0.0072 |
| **AvgBodyMass** | 1 | 159.4017800 | 159.4017800 | 12.75 | 0.0051 |
| **ReproStage2** | 1 | 20.3833362 | 20.3833362 | 1.63 | 0.2305 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 115.6778562 | 115.6778562 | 9.25 | 0.0124 |
| **AvgBodyMass** | 1 | 65.8070181 | 65.8070181 | 5.26 | 0.0447 |
| **ReproStage2** | 1 | 20.3833362 | 20.3833362 | 1.63 | 0.2305 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -19.97146523 | B | 14.77452396 | -1.35 | 0.2062 |
| **Colony Ernst Barn** | 6.40393790 | B | 2.10527065 | 3.04 | 0.0124 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 4.17900377 |  | 1.82147241 | 2.29 | 0.0447 |
| **ReproStage2 P2** | -3.03981676 | B | 2.38065088 | -1.28 | 0.2305 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 17.7490864 | 0.0124 |
| **Singh Barn** | 11.3451485 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 8 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 66.9214889 | 22.3071630 | 0.65 | 0.6224 |
| **Error** | 4 | 136.9198407 | 34.2299602 |  |  |
| **Corrected Total** | 7 | 203.8413296 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.328302 | 39.68530 | 5.850638 | 14.74258 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 22.58557718 | 22.58557718 | 0.66 | 0.4622 |
| **AvgBodyMass** | 1 | 24.05243192 | 24.05243192 | 0.70 | 0.4491 |
| **ReproStage2** | 1 | 20.28347980 | 20.28347980 | 0.59 | 0.4844 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 23.43465342 | 23.43465342 | 0.68 | 0.4545 |
| **AvgBodyMass** | 1 | 15.94476857 | 15.94476857 | 0.47 | 0.5324 |
| **ReproStage2** | 1 | 20.28347980 | 20.28347980 | 0.59 | 0.4844 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -9.212174451 | B | 38.54264993 | -0.24 | 0.8228 |
| **Colony Ernst Barn** | -4.152628535 | B | 5.01876677 | -0.83 | 0.4545 |
| **Colony Singh Barn** | 0.000000000 | B | . | . | . |
| **AvgBodyMass** | 3.675878987 |  | 5.38586288 | 0.68 | 0.5324 |
| **ReproStage2 P2** | -3.383853607 | B | 4.39585675 | -0.77 | 0.4844 |
| **ReproStage2 P3** | 0.000000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 11.2051281 | 0.4545 |
| **Singh Barn** | 15.3577567 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 14 |
| **Number of Observations Used** | 7 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 287.5878948 | 71.8969737 | 0.58 | 0.7111 |
| **Error** | 2 | 247.5011309 | 123.7505654 |  |  |
| **Corrected Total** | 6 | 535.0890257 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.537458 | 59.61086 | 11.12432 | 18.66157 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 84.95979891 | 84.95979891 | 0.69 | 0.4945 |
| **AvgBodyMass** | 1 | 99.27847604 | 99.27847604 | 0.80 | 0.4649 |
| **ReproStage2** | 1 | 63.72342432 | 63.72342432 | 0.51 | 0.5475 |
| **AvgBodyMa\*ReproStage** | 1 | 39.62619558 | 39.62619558 | 0.32 | 0.6285 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 85.61877801 | 85.61877801 | 0.69 | 0.4930 |
| **AvgBodyMass** | 1 | 13.81870321 | 13.81870321 | 0.11 | 0.7700 |
| **ReproStage2** | 1 | 53.54465959 | 53.54465959 | 0.43 | 0.5783 |
| **AvgBodyMa\*ReproStage** | 1 | 39.62619558 | 39.62619558 | 0.32 | 0.6285 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 1.18786783 | B | 56.89262446 | 0.02 | 0.9852 |
| **Colony Ernst Barn** | 8.03551655 | B | 9.66057293 | 0.83 | 0.4930 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 1.41067258 | B | 7.21758112 | 0.20 | 0.8631 |
| **ReproStage2 P0** | 56.79833588 | B | 86.34777012 | 0.66 | 0.5783 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P0** | -6.96128060 | B | 12.30188170 | -0.57 | 0.6285 |
| **AvgBodyMa\*ReproStage P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 22.5635371 | 0.4930 |
| **Singh Barn** | 14.5280206 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 6 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 140.8799625 | 35.2199906 | 2.01 | 0.4806 |
| **Error** | 1 | 17.5339004 | 17.5339004 |  |  |
| **Corrected Total** | 5 | 158.4138628 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.889316 | 26.72748 | 4.187350 | 15.66683 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 18.78783603 | 18.78783603 | 1.07 | 0.4890 |
| **AvgBodyMass** | 1 | 26.58786672 | 26.58786672 | 1.52 | 0.4342 |
| **ReproStage2** | 1 | 0.13843974 | 0.13843974 | 0.01 | 0.9436 |
| **AvgBodyMa\*ReproStage** | 1 | 95.36581997 | 95.36581997 | 5.44 | 0.2579 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 9.30983314 | 9.30983314 | 0.53 | 0.5991 |
| **AvgBodyMass** | 1 | 46.80541651 | 46.80541651 | 2.67 | 0.3497 |
| **ReproStage2** | 1 | 94.21703911 | 94.21703911 | 5.37 | 0.2593 |
| **AvgBodyMa\*ReproStage** | 1 | 95.36581997 | 95.36581997 | 5.44 | 0.2579 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 2.07486898 | B | 21.41657612 | 0.10 | 0.9385 |
| **Colony Ernst Barn** | -3.52595051 | B | 4.83887642 | -0.73 | 0.5991 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 1.66595969 | B | 2.71771232 | 0.61 | 0.6499 |
| **ReproStage2 P0** | 76.37810784 | B | 32.94909090 | 2.32 | 0.2593 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P0** | -11.12754909 | B | 4.77136250 | -2.33 | 0.2579 |
| **AvgBodyMa\*ReproStage P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 8.1085223 | 0.5991 |
| **Singh Barn** | 11.6344728 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 22 |
| **Number of Observations Used** | 15 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 12.4967555 | 3.1241889 | 0.14 | 0.9655 |
| **Error** | 10 | 230.7153680 | 23.0715368 |  |  |
| **Corrected Total** | 14 | 243.2121235 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.051382 | 36.25663 | 4.803284 | 13.24801 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 0.53315591 | 0.53315591 | 0.02 | 0.8822 |
| **AvgBodyMass** | 1 | 0.34954800 | 0.34954800 | 0.02 | 0.9045 |
| **ReproStage2** | 1 | 4.76871967 | 4.76871967 | 0.21 | 0.6591 |
| **AvgBodyMa\*ReproStage** | 1 | 6.84533193 | 6.84533193 | 0.30 | 0.5979 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 0.03495187 | 0.03495187 | 0.00 | 0.9697 |
| **AvgBodyMass** | 1 | 6.34545513 | 6.34545513 | 0.28 | 0.6114 |
| **ReproStage2** | 1 | 7.52387486 | 7.52387486 | 0.33 | 0.5806 |
| **AvgBodyMa\*ReproStage** | 1 | 6.84533193 | 6.84533193 | 0.30 | 0.5979 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -11.60754493 | B | 40.35955239 | -0.29 | 0.7795 |
| **Colony Ernst Barn** | 0.14938478 | B | 3.83803900 | 0.04 | 0.9697 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 3.31950044 | B | 5.53901098 | 0.60 | 0.5623 |
| **ReproStage2 P0** | 25.23113102 | B | 44.18289808 | 0.57 | 0.5806 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P0** | -3.31986141 | B | 6.09482106 | -0.54 | 0.5979 |
| **AvgBodyMa\*ReproStage P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 12.9514143 | 0.9697 |
| **Singh Barn** | 12.8020295 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 25 |
| **Number of Observations Used** | 16 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 689.907031 | 172.476758 | 4.64 | 0.0194 |
| **Error** | 11 | 408.774842 | 37.161349 |  |  |
| **Corrected Total** | 15 | 1098.681872 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.627941 | 36.66167 | 6.096011 | 16.62775 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 193.0017785 | 193.0017785 | 5.19 | 0.0436 |
| **AvgBodyMass** | 1 | 381.4638353 | 381.4638353 | 10.27 | 0.0084 |
| **ReproStage2** | 1 | 109.7751244 | 109.7751244 | 2.95 | 0.1136 |
| **AvgBodyMa\*ReproStage** | 1 | 5.6662923 | 5.6662923 | 0.15 | 0.7036 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 251.3528410 | 251.3528410 | 6.76 | 0.0247 |
| **AvgBodyMass** | 1 | 102.6409803 | 102.6409803 | 2.76 | 0.1247 |
| **ReproStage2** | 1 | 2.0956477 | 2.0956477 | 0.06 | 0.8167 |
| **AvgBodyMa\*ReproStage** | 1 | 5.6662923 | 5.6662923 | 0.15 | 0.7036 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -29.43661124 | B | 30.37789243 | -0.97 | 0.3534 |
| **Colony Ernst Barn** | 8.35585707 | B | 3.21288248 | 2.60 | 0.0247 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 5.63040497 | B | 3.66620237 | 1.54 | 0.1528 |
| **ReproStage2 P2** | 10.20371879 | B | 42.96799373 | 0.24 | 0.8167 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P2** | -2.10891517 | B | 5.40076600 | -0.39 | 0.7036 |
| **AvgBodyMa\*ReproStage P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 20.4313466 | 0.0247 |
| **Singh Barn** | 12.0754895 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 24 |
| **Number of Observations Used** | 15 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 440.1319977 | 110.0329994 | 6.84 | 0.0064 |
| **Error** | 10 | 160.8200012 | 16.0820001 |  |  |
| **Corrected Total** | 14 | 600.9519989 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.732391 | 26.40458 | 4.010237 | 15.18766 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 70.8551639 | 70.8551639 | 4.41 | 0.0622 |
| **AvgBodyMass** | 1 | 339.3397114 | 339.3397114 | 21.10 | 0.0010 |
| **ReproStage2** | 1 | 15.1401049 | 15.1401049 | 0.94 | 0.3548 |
| **AvgBodyMa\*ReproStage** | 1 | 14.7970175 | 14.7970175 | 0.92 | 0.3601 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 77.6010160 | 77.6010160 | 4.83 | **0.0527** |
| **AvgBodyMass** | 1 | 157.3276205 | 157.3276205 | 9.78 | 0.0107 |
| **ReproStage2** | 1 | 11.9884270 | 11.9884270 | 0.75 | 0.4081 |
| **AvgBodyMa\*ReproStage** | 1 | 14.7970175 | 14.7970175 | 0.92 | 0.3601 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -45.60936329 | B | 20.40401027 | -2.24 | 0.0494 |
| **Colony Ernst Barn** | 5.00664242 | B | 2.27920244 | 2.20 | 0.0527 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 7.45231349 | B | 2.45602373 | 3.03 | 0.0126 |
| **ReproStage2 P2** | 24.60980841 | B | 28.50343244 | 0.86 | 0.4081 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P2** | -3.42306454 | B | 3.56860125 | -0.96 | 0.3601 |
| **AvgBodyMa\*ReproStage P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 17.3165173 | **0.0527** |
| **Singh Barn** | 12.3098749 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 23 |
| **Number of Observations Used** | 14 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 322.1434491 | 80.5358623 | 5.83 | 0.0135 |
| **Error** | 9 | 124.3339114 | 13.8148790 |  |  |
| **Corrected Total** | 13 | 446.4773605 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.721522 | 25.93748 | 3.716837 | 14.32999 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 141.6744367 | 141.6744367 | 10.26 | 0.0108 |
| **AvgBodyMass** | 1 | 159.4017800 | 159.4017800 | 11.54 | 0.0079 |
| **ReproStage2** | 1 | 20.3833362 | 20.3833362 | 1.48 | 0.2554 |
| **AvgBodyMa\*ReproStage** | 1 | 0.6838962 | 0.6838962 | 0.05 | 0.8289 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 107.6535754 | 107.6535754 | 7.79 | 0.0210 |
| **AvgBodyMass** | 1 | 66.3623229 | 66.3623229 | 4.80 | **0.0561** |
| **ReproStage2** | 1 | 0.1938076 | 0.1938076 | 0.01 | 0.9083 |
| **AvgBodyMa\*ReproStage** | 1 | 0.6838962 | 0.6838962 | 0.05 | 0.8289 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -23.80249608 | B | 23.18811956 | -1.03 | 0.3315 |
| **Colony Ernst Barn** | 6.30394061 | B | 2.25824693 | 2.79 | 0.0210 |
| **Colony Singh Barn** | 0.00000000 | B | . | . | . |
| **AvgBodyMass** | 4.65036339 | B | 2.85557813 | 1.63 | 0.1379 |
| **ReproStage2 P2** | 3.48724729 | B | 29.44223980 | 0.12 | 0.9083 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P2** | -0.81779190 | B | 3.67554073 | -0.22 | 0.8289 |
| **AvgBodyMa\*ReproStage P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 17.5723986 | 0.0210 |
| **Singh Barn** | 11.2684580 |  |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **Colony** | 2 | Ernst Barn Singh Barn |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 8 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 4 | 122.3796628 | 30.5949157 | 1.13 | 0.4801 |
| **Error** | 3 | 81.4616668 | 27.1538889 |  |  |
| **Corrected Total** | 7 | 203.8413296 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.600367 | 35.34618 | 5.210939 | 14.74258 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 22.58557718 | 22.58557718 | 0.83 | 0.4290 |
| **AvgBodyMass** | 1 | 24.05243192 | 24.05243192 | 0.89 | 0.4161 |
| **ReproStage2** | 1 | 20.28347980 | 20.28347980 | 0.75 | 0.4510 |
| **AvgBodyMa\*ReproStage** | 1 | 55.45817394 | 55.45817394 | 2.04 | 0.2483 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Colony** | 1 | 62.91836580 | 62.91836580 | 2.32 | 0.2253 |
| **AvgBodyMass** | 1 | 0.50039656 | 0.50039656 | 0.02 | 0.9006 |
| **ReproStage2** | 1 | 52.61129555 | 52.61129555 | 1.94 | 0.2582 |
| **AvgBodyMa\*ReproStage** | 1 | 55.45817394 | 55.45817394 | 2.04 | 0.2483 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -44.2639627 | B | 42.19021767 | -1.05 | 0.3712 |
| **Colony Ernst Barn** | -7.8753604 | B | 5.17365825 | -1.52 | 0.2253 |
| **Colony Singh Barn** | 0.0000000 | B | . | . | . |
| **AvgBodyMass** | 8.6558922 | B | 5.92908760 | 1.46 | 0.2404 |
| **ReproStage2 P2** | 131.0970044 | B | 94.18229924 | 1.39 | 0.2582 |
| **ReproStage2 P3** | 0.0000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P2** | -18.8647399 | B | 13.20030778 | -1.43 | 0.2483 |
| **AvgBodyMa\*ReproStage P3** | 0.0000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh v Ernst, WS2, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Least Squares Means

| **Colony** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **Ernst Barn** | 7.8617306 | 0.2253 |
| **Singh Barn** | 15.7370910 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS1, controlling for body mass |

The GLM Procedure

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 5 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS1, controlling for body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 26.5878667 | 26.5878667 | 0.71 | 0.4626 |
| **Error** | 3 | 113.0381601 | 37.6793867 |  |  |
| **Corrected Total** | 4 | 139.6260268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.190422 | 37.29663 | 6.138354 | 16.45820 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 26.58786672 | 26.58786672 | 0.71 | 0.4626 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 26.58786672 | 26.58786672 | 0.71 | 0.4626 |

| **Parameter** | **Estimate** | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- |
| **Intercept** | 31.46513775 | 18.07464981 | 1.74 | 0.1801 |
| **AvgBodyMass** | -2.07450066 | 2.46958366 | -0.84 | 0.4626 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS1, controlling for body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 5 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS1, controlling for body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 26.5878667 | 26.5878667 | 0.71 | 0.4626 |
| **Error** | 3 | 113.0381601 | 37.6793867 |  |  |
| **Corrected Total** | 4 | 139.6260268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.190422 | 37.29663 | 6.138354 | 16.45820 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 26.58786672 | 26.58786672 | 0.71 | 0.4626 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 26.58786672 | 26.58786672 | 0.71 | 0.4626 |

| **Parameter** | **Estimate** | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- |
| **Intercept** | 31.46513775 | 18.07464981 | 1.74 | 0.1801 |
| **AvgBodyMass** | -2.07450066 | 2.46958366 | -0.84 | 0.4626 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS2, controlling for body mass |

The GLM Procedure

|  |  |
| --- | --- |
| **Number of Observations Read** | 20 |
| **Number of Observations Used** | 13 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS2, controlling for body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 0.3674344 | 0.3674344 | 0.02 | 0.8996 |
| **Error** | 11 | 242.2528287 | 22.0229844 |  |  |
| **Corrected Total** | 12 | 242.6202631 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.001514 | 35.62199 | 4.692865 | 13.17407 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 0.36743440 | 0.36743440 | 0.02 | 0.8996 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 0.36743440 | 0.36743440 | 0.02 | 0.8996 |

| **Parameter** | **Estimate** | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- |
| **Intercept** | 10.99906195 | 16.88892453 | 0.65 | 0.5283 |
| **AvgBodyMass** | 0.30864607 | 2.38951046 | 0.13 | 0.8996 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, controlling for body mass |

The GLM Procedure

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, controlling for body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 258.9023975 | 258.9023975 | 13.89 | 0.0098 |
| **Error** | 6 | 111.8030514 | 18.6338419 |  |  |
| **Corrected Total** | 7 | 370.7054488 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.698405 | 32.81503 | 4.316693 | 13.15462 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 258.9023975 | 258.9023975 | 13.89 | 0.0098 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 258.9023975 | 258.9023975 | 13.89 | 0.0098 |

| **Parameter** | **Estimate** | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- |
| **Intercept** | -43.59301377 | 15.30038329 | -2.85 | 0.0292 |
| **AvgBodyMass** | 7.15043468 | 1.91829596 | 3.73 | 0.0098 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, controlling for body mass dropping outliers |
| No BMR less than 35 |

The GLM Procedure

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, controlling for body mass dropping outliers |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 258.9023975 | 258.9023975 | 13.89 | 0.0098 |
| **Error** | 6 | 111.8030514 | 18.6338419 |  |  |
| **Corrected Total** | 7 | 370.7054488 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.698405 | 32.81503 | 4.316693 | 13.15462 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 258.9023975 | 258.9023975 | 13.89 | 0.0098 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 258.9023975 | 258.9023975 | 13.89 | 0.0098 |

| **Parameter** | **Estimate** | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- |
| **Intercept** | -43.59301377 | 15.30038329 | -2.85 | 0.0292 |
| **AvgBodyMass** | 7.15043468 | 1.91829596 | 3.73 | 0.0098 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, controlling for body mass dropping outliers |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

|  |  |
| --- | --- |
| **Number of Observations Read** | 12 |
| **Number of Observations Used** | 7 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, controlling for body mass dropping outliers |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 80.1252888 | 80.1252888 | 6.14 | 0.0560 |
| **Error** | 5 | 65.2862489 | 13.0572498 |  |  |
| **Corrected Total** | 6 | 145.4115377 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.551024 | 32.41123 | 3.613482 | 11.14886 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 80.12528881 | 80.12528881 | 6.14 | 0.0560 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 80.12528881 | 80.12528881 | 6.14 | **0.0560** |

| **Parameter** | **Estimate** | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- |
| **Intercept** | -27.10575547 | 15.50303418 | -1.75 | 0.1408 |
| **AvgBodyMass** | 4.93062560 | 1.99041244 | 2.48 | 0.0560 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS2, controlling for body mass |

The GLM Procedure

|  |  |
| --- | --- |
| **Number of Observations Read** | 6 |
| **Number of Observations Used** | 6 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS2, controlling for body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 39.0831494 | 39.0831494 | 1.10 | 0.3531 |
| **Error** | 4 | 141.9028065 | 35.4757016 |  |  |
| **Corrected Total** | 5 | 180.9859559 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.215946 | 37.90667 | 5.956148 | 15.71267 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 39.08314939 | 39.08314939 | 1.10 | 0.3531 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 39.08314939 | 39.08314939 | 1.10 | 0.3531 |

| **Parameter** | **Estimate** | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- |
| **Intercept** | -32.55051217 | 46.04611954 | -0.71 | 0.5186 |
| **AvgBodyMass** | 6.80961959 | 6.48774201 | 1.05 | 0.3531 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 5 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 13.4442296 | 13.4442296 | 0.32 | 0.6113 |
| **Error** | 3 | 126.1817972 | 42.0605991 |  |  |
| **Corrected Total** | 4 | 139.6260268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.096287 | 39.40537 | 6.485414 | 16.45820 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 13.44422963 | 13.44422963 | 0.32 | 0.6113 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 13.44422963 | 13.44422963 | 0.32 | 0.6113 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 15.11933333 | B | 3.74435571 | 4.04 | 0.0273 |
| **ReproStage2 P0** | 3.34716667 | B | 5.92034621 | 0.57 | 0.6113 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P0** | 18.4665000 | 0.6113 |
| **P1** | 15.1193333 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 5 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 13.4442296 | 13.4442296 | 0.32 | 0.6113 |
| **Error** | 3 | 126.1817972 | 42.0605991 |  |  |
| **Corrected Total** | 4 | 139.6260268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.096287 | 39.40537 | 6.485414 | 16.45820 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 13.44422963 | 13.44422963 | 0.32 | 0.6113 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 13.44422963 | 13.44422963 | 0.32 | 0.6113 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 15.11933333 | B | 3.74435571 | 4.04 | 0.0273 |
| **ReproStage2 P0** | 3.34716667 | B | 5.92034621 | 0.57 | 0.6113 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P0** | 18.4665000 | 0.6113 |
| **P1** | 15.1193333 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P0-P1) |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 20 |
| **Number of Observations Used** | 13 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P0-P1) |

The GLM Procedure

 Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 3.8603857 | 3.8603857 | 0.18 | 0.6813 |
| **Error** | 11 | 238.7598774 | 21.7054434 |  |  |
| **Corrected Total** | 12 | 242.6202631 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.015911 | 35.36425 | 4.658910 | 13.17407 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 3.86038570 | 3.86038570 | 0.18 | 0.6813 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 3.86038570 | 3.86038570 | 0.18 | 0.6813 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 12.48477440 | B | 2.08352794 | 5.99 | <.0001 |
| **ReproStage2 P0** | 1.12010060 | B | 2.65598741 | 0.42 | 0.6813 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P0-P1) |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P0** | 13.6048750 | 0.6813 |
| **P1** | 12.4847744 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 147.4697414 | 147.4697414 | 3.96 | 0.0936 |
| **Error** | 6 | 223.2357074 | 37.2059512 |  |  |
| **Corrected Total** | 7 | 370.7054488 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.397808 | 46.36901 | 6.099668 | 13.15462 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 147.4697414 | 147.4697414 | 3.96 | 0.0936 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 147.4697414 | 147.4697414 | 3.96 | **0.0936** |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 16.48031600 | B | 2.72785451 | 6.04 | 0.0009 |
| **ReproStage2 P2** | -8.86851333 | B | 4.45456777 | -1.99 | 0.0936 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 7.6118027 | **0.0936** |
| **P3** | 16.4803160 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

 Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 147.4697414 | 147.4697414 | 3.96 | 0.0936 |
| **Error** | 6 | 223.2357074 | 37.2059512 |  |  |
| **Corrected Total** | 7 | 370.7054488 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.397808 | 46.36901 | 6.099668 | 13.15462 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 147.4697414 | 147.4697414 | 3.96 | 0.0936 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 147.4697414 | 147.4697414 | 3.96 | **0.0936** |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 16.48031600 | B | 2.72785451 | 6.04 | 0.0009 |
| **ReproStage2 P2** | -8.86851333 | B | 4.45456777 | -1.99 | 0.0936 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 7.6118027 | **0.0936** |
| **P3** | 16.4803160 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 12 |
| **Number of Observations Used** | 7 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

 Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 65.6813968 | 65.6813968 | 4.12 | 0.0982 |
| **Error** | 5 | 79.7301409 | 15.9460282 |  |  |
| **Corrected Total** | 6 | 145.4115377 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.451693 | 35.81756 | 3.993248 | 11.14886 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 65.68139676 | 65.68139676 | 4.12 | 0.0982 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 65.68139676 | 65.68139676 | **4.12** | **0.0982** |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.80164500 | B | 1.99662391 | 6.91 | 0.0010 |
| **ReproStage2 P2** | -6.18984233 | B | 3.04989340 | -2.03 | 0.0982 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 7.6118027 | **0.0982** |
| **P3** | 13.8016450 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P2-P3) |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 6 |
| **Number of Observations Used** | 6 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P2-P3) |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 43.1137162 | 43.1137162 | 1.25 | 0.3260 |
| **Error** | 4 | 137.8722397 | 34.4680599 |  |  |
| **Corrected Total** | 5 | 180.9859559 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.238216 | 37.36444 | 5.870951 | 15.71267 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 43.11371616 | 43.11371616 | 1.25 | 0.3260 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 43.11371616 | 43.11371616 | 1.25 | 0.3260 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 17.60813750 | B | 2.93547526 | 6.00 | 0.0039 |
| **ReproStage2 P2** | -5.68641250 | B | 5.08439229 | -1.12 | 0.3260 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P2-P3) |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 11.9217250 | 0.3260 |
| **P3** | 17.6081375 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 5 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 26.7263065 | 13.3631532 | 0.24 | 0.8086 |
| **Error** | 2 | 112.8997203 | 56.4498602 |  |  |
| **Corrected Total** | 4 | 139.6260268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.191413 | 45.65087 | 7.513312 | 16.45820 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 26.58786672 | 26.58786672 | 0.47 | 0.5634 |
| **ReproStage2** | 1 | 0.13843974 | 0.13843974 | 0.00 | 0.9650 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 13.28207683 | 13.28207683 | 0.24 | 0.6756 |
| **ReproStage2** | 1 | 0.13843974 | 0.13843974 | 0.00 | 0.9650 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 30.34211006 | B | 31.68121859 | 0.96 | 0.4393 |
| **AvgBodyMass** | -1.94416050 |  | 4.00802624 | -0.49 | 0.6756 |
| **ReproStage2 P0** | 0.45036752 | B | 9.09427544 | 0.05 | 0.9650 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P0** | 16.7284205 | 0.9650 |
| **P1** | 16.2780530 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 5 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 26.7263065 | 13.3631532 | 0.24 | 0.8086 |
| **Error** | 2 | 112.8997203 | 56.4498602 |  |  |
| **Corrected Total** | 4 | 139.6260268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.191413 | 45.65087 | 7.513312 | 16.45820 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 26.58786672 | 26.58786672 | 0.47 | 0.5634 |
| **ReproStage2** | 1 | 0.13843974 | 0.13843974 | 0.00 | 0.9650 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 13.28207683 | 13.28207683 | 0.24 | 0.6756 |
| **ReproStage2** | 1 | 0.13843974 | 0.13843974 | 0.00 | 0.9650 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 30.34211006 | B | 31.68121859 | 0.96 | 0.4393 |
| **AvgBodyMass** | -1.94416050 |  | 4.00802624 | -0.49 | 0.6756 |
| **ReproStage2 P0** | 0.45036752 | B | 9.09427544 | 0.05 | 0.9650 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P0** | 16.7284205 | 0.9650 |
| **P1** | 16.2780530 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 20 |
| **Number of Observations Used** | 13 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 5.3989076 | 2.6994538 | 0.11 | 0.8936 |
| **Error** | 10 | 237.2213555 | 23.7221355 |  |  |
| **Corrected Total** | 12 | 242.6202631 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.022253 | 36.97064 | 4.870538 | 13.17407 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 0.36743440 | 0.36743440 | 0.02 | 0.9034 |
| **ReproStage2** | 1 | 5.03147319 | 5.03147319 | 0.21 | 0.6550 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 1.53852188 | 1.53852188 | 0.06 | 0.8041 |
| **ReproStage2** | 1 | 5.03147319 | 5.03147319 | 0.21 | 0.6550 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 7.693013168 | B | 18.94134991 | 0.41 | 0.6932 |
| **AvgBodyMass** | 0.660932584 |  | 2.59526802 | 0.25 | 0.8041 |
| **ReproStage2 P0** | 1.338208353 | B | 2.90571521 | 0.46 | 0.6550 |
| **ReproStage2 P1** | 0.000000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P0** | 13.6887626 | 0.6550 |
| **P1** | 12.3505542 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 290.8123599 | 145.4061800 | 9.10 | 0.0216 |
| **Error** | 5 | 79.8930889 | 15.9786178 |  |  |
| **Corrected Total** | 7 | 370.7054488 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.784484 | 30.38723 | 3.997326 | 13.15462 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 258.9023975 | 258.9023975 | 16.20 | 0.0101 |
| **ReproStage2** | 1 | 31.9099624 | 31.9099624 | 2.00 | 0.2167 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 143.3426185 | 143.3426185 | 8.97 | 0.0303 |
| **ReproStage2** | 1 | 31.9099624 | 31.9099624 | 2.00 | 0.2167 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -32.12741875 | B | 16.32699539 | -1.97 | 0.1062 |
| **AvgBodyMass** | 5.92271655 |  | 1.97743805 | 3.00 | 0.0303 |
| **ReproStage2 P2** | -4.59231198 | B | 3.24965938 | -1.41 | 0.2167 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 10.2844285 | 0.2167 |
| **P3** | 14.8767405 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 290.8123599 | 145.4061800 | 9.10 | 0.0216 |
| **Error** | 5 | 79.8930889 | 15.9786178 |  |  |
| **Corrected Total** | 7 | 370.7054488 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.784484 | 30.38723 | 3.997326 | 13.15462 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 258.9023975 | 258.9023975 | 16.20 | 0.0101 |
| **ReproStage2** | 1 | 31.9099624 | 31.9099624 | 2.00 | 0.2167 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 143.3426185 | 143.3426185 | 8.97 | 0.0303 |
| **ReproStage2** | 1 | 31.9099624 | 31.9099624 | 2.00 | 0.2167 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -32.12741875 | B | 16.32699539 | -1.97 | 0.1062 |
| **AvgBodyMass** | 5.92271655 |  | 1.97743805 | 3.00 | 0.0303 |
| **ReproStage2 P2** | -4.59231198 | B | 3.24965938 | -1.41 | 0.2167 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 10.2844285 | 0.2167 |
| **P3** | 14.8767405 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 12 |
| **Number of Observations Used** | 7 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 108.6652825 | 54.3326413 | 5.91 | 0.0639 |
| **Error** | 4 | 36.7462552 | 9.1865638 |  |  |
| **Corrected Total** | 6 | 145.4115377 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.747295 | 27.18606 | 3.030934 | 11.14886 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 80.12528881 | 80.12528881 | 8.72 | 0.0418 |
| **ReproStage2** | 1 | 28.53999371 | 28.53999371 | 3.11 | 0.1528 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 42.98388575 | 42.98388575 | 4.68 | **0.0966** |
| **ReproStage2** | 1 | 28.53999371 | 28.53999371 | 3.11 | 0.1528 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -16.84288850 | B | 14.24778755 | -1.18 | 0.3026 |
| **AvgBodyMass** | 3.84800295 |  | 1.77893102 | 2.16 | 0.0966 |
| **ReproStage2 P2** | -4.34761092 | B | 2.46660883 | -1.76 | 0.1528 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 6 |
| **Number of Observations Used** | 6 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 96.7929658 | 48.3964829 | 1.72 | 0.3173 |
| **Error** | 3 | 84.1929901 | 28.0643300 |  |  |
| **Corrected Total** | 5 | 180.9859559 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.534809 | 33.71533 | 5.297578 | 15.71267 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 39.08314939 | 39.08314939 | 1.39 | 0.3230 |
| **ReproStage2** | 1 | 57.70981640 | 57.70981640 | 2.06 | 0.2470 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 53.67924963 | 53.67924963 | 1.91 | 0.2606 |
| **ReproStage2** | 1 | 57.70981640 | 57.70981640 | 2.06 | 0.2470 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -39.28635749 | B | 41.22329966 | -0.95 | 0.4109 |
| **AvgBodyMass** | 8.07300390 |  | 5.83726330 | 1.38 | 0.2606 |
| **ReproStage2 P2** | -6.65517297 | B | 4.64100291 | -1.43 | 0.2470 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 11.2758847 | 0.2470 |
| **P3** | 17.9310577 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 5 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 122.0921264 | 40.6973755 | 2.32 | 0.4416 |
| **Error** | 1 | 17.5339004 | 17.5339004 |  |  |
| **Corrected Total** | 4 | 139.6260268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.874422 | 25.44233 | 4.187350 | 16.45820 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 26.58786672 | 26.58786672 | 1.52 | 0.4342 |
| **ReproStage2** | 1 | 0.13843974 | 0.13843974 | 0.01 | 0.9436 |
| **AvgBodyMa\*ReproStage** | 1 | 95.36581997 | 95.36581997 | 5.44 | 0.2579 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 46.80541651 | 46.80541651 | 2.67 | 0.3497 |
| **ReproStage2** | 1 | 94.21703911 | 94.21703911 | 5.37 | 0.2593 |
| **AvgBodyMa\*ReproStage** | 1 | 95.36581997 | 95.36581997 | 5.44 | 0.2579 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 2.07486898 | B | 21.41657612 | 0.10 | 0.9385 |
| **AvgBodyMass** | 1.66595969 | B | 2.71771232 | 0.61 | 0.6499 |
| **ReproStage2 P0** | 76.37810784 | B | 32.94909090 | 2.32 | 0.2593 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P0** | -11.12754909 | B | 4.77136250 | -2.33 | 0.2579 |
| **AvgBodyMa\*ReproStage P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P0** | 10.0078391 | 0.5871 |
| **P1** | 14.1264214 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 5 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 122.0921264 | 40.6973755 | 2.32 | 0.4416 |
| **Error** | 1 | 17.5339004 | 17.5339004 |  |  |
| **Corrected Total** | 4 | 139.6260268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.874422 | 25.44233 | 4.187350 | 16.45820 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 26.58786672 | 26.58786672 | 1.52 | 0.4342 |
| **ReproStage2** | 1 | 0.13843974 | 0.13843974 | 0.01 | 0.9436 |
| **AvgBodyMa\*ReproStage** | 1 | 95.36581997 | 95.36581997 | 5.44 | 0.2579 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 46.80541651 | 46.80541651 | 2.67 | 0.3497 |
| **ReproStage2** | 1 | 94.21703911 | 94.21703911 | 5.37 | 0.2593 |
| **AvgBodyMa\*ReproStage** | 1 | 95.36581997 | 95.36581997 | 5.44 | 0.2579 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 2.07486898 | B | 21.41657612 | 0.10 | 0.9385 |
| **AvgBodyMass** | 1.66595969 | B | 2.71771232 | 0.61 | 0.6499 |
| **ReproStage2 P0** | 76.37810784 | B | 32.94909090 | 2.32 | 0.2593 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P0** | -11.12754909 | B | 4.77136250 | -2.33 | 0.2579 |
| **AvgBodyMa\*ReproStage P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P0** | 10.0078391 | 0.5871 |
| **P1** | 14.1264214 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 20 |
| **Number of Observations Used** | 13 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 11.9479840 | 3.9826613 | 0.16 | 0.9236 |
| **Error** | 9 | 230.6722790 | 25.6302532 |  |  |
| **Corrected Total** | 12 | 242.6202631 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.049246 | 38.42878 | 5.062633 | 13.17407 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 0.36743440 | 0.36743440 | 0.01 | 0.9073 |
| **ReproStage2** | 1 | 5.03147319 | 5.03147319 | 0.20 | 0.6682 |
| **AvgBodyMa\*ReproStage** | 1 | 6.54907645 | 6.54907645 | 0.26 | 0.6254 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 6.37182141 | 6.37182141 | 0.25 | 0.6300 |
| **ReproStage2** | 1 | 7.25757065 | 7.25757065 | 0.28 | 0.6075 |
| **AvgBodyMa\*ReproStage** | 1 | 6.54907645 | 6.54907645 | 0.26 | 0.6254 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -12.01314718 | B | 43.67378712 | -0.28 | 0.7895 |
| **AvgBodyMass** | 3.37902367 | B | 6.01587062 | 0.56 | 0.5880 |
| **ReproStage2 P0** | 25.77841822 | B | 48.44367453 | 0.53 | 0.6075 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P0** | -3.40220229 | B | 6.73048794 | -0.51 | 0.6254 |
| **AvgBodyMa\*ReproStage P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P0** | 13.6019331 | 0.5819 |
| **P1** | 11.7985727 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 320.3567878 | 106.7855959 | 8.48 | 0.0330 |
| **Error** | 4 | 50.3486610 | 12.5871653 |  |  |
| **Corrected Total** | 7 | 370.7054488 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.864181 | 26.97029 | 3.547840 | 13.15462 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 258.9023975 | 258.9023975 | 20.57 | 0.0105 |
| **ReproStage2** | 1 | 31.9099624 | 31.9099624 | 2.54 | 0.1866 |
| **AvgBodyMa\*ReproStage** | 1 | 29.5444279 | 29.5444279 | 2.35 | 0.2003 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 117.0095616 | 117.0095616 | 9.30 | 0.0381 |
| **ReproStage2** | 1 | 23.2567989 | 23.2567989 | 1.85 | 0.2456 |
| **AvgBodyMa\*ReproStage** | 1 | 29.5444279 | 29.5444279 | 2.35 | 0.2003 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -50.56947644 | B | 18.83858246 | -2.68 | 0.0550 |
| **AvgBodyMass** | 8.16982971 | B | 2.28727277 | 3.57 | 0.0233 |
| **ReproStage2 P2** | 37.93265835 | B | 27.90630124 | 1.36 | 0.2456 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P2** | -5.46460316 | B | 3.56684965 | -1.53 | 0.2003 |
| **AvgBodyMa\*ReproStage P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 8.8325361 | 0.1378 |
| **P3** | 14.2683346 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 320.3567878 | 106.7855959 | 8.48 | 0.0330 |
| **Error** | 4 | 50.3486610 | 12.5871653 |  |  |
| **Corrected Total** | 7 | 370.7054488 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.864181 | 26.97029 | 3.547840 | 13.15462 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 258.9023975 | 258.9023975 | 20.57 | 0.0105 |
| **ReproStage2** | 1 | 31.9099624 | 31.9099624 | 2.54 | 0.1866 |
| **AvgBodyMa\*ReproStage** | 1 | 29.5444279 | 29.5444279 | 2.35 | 0.2003 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 117.0095616 | 117.0095616 | 9.30 | 0.0381 |
| **ReproStage2** | 1 | 23.2567989 | 23.2567989 | 1.85 | 0.2456 |
| **AvgBodyMa\*ReproStage** | 1 | 29.5444279 | 29.5444279 | 2.35 | 0.2003 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -50.56947644 | B | 18.83858246 | -2.68 | 0.0550 |
| **AvgBodyMass** | 8.16982971 | B | 2.28727277 | 3.57 | 0.0233 |
| **ReproStage2 P2** | 37.93265835 | B | 27.90630124 | 1.36 | 0.2456 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P2** | -5.46460316 | B | 3.56684965 | -1.53 | 0.2003 |
| **AvgBodyMa\*ReproStage P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 8.8325361 | 0.1378 |
| **P3** | 14.2683346 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 12 |
| **Number of Observations Used** | 7 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 113.8758361 | 37.9586120 | 3.61 | 0.1598 |
| **Error** | 3 | 31.5357016 | 10.5119005 |  |  |
| **Corrected Total** | 6 | 145.4115377 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.783128 | 29.08107 | 3.242206 | 11.14886 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 80.12528881 | 80.12528881 | 7.62 | 0.0701 |
| **ReproStage2** | 1 | 28.53999371 | 28.53999371 | 2.72 | 0.1980 |
| **AvgBodyMa\*ReproStage** | 1 | 5.21055355 | 5.21055355 | 0.50 | 0.5321 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 46.70553136 | 46.70553136 | 4.44 | 0.1256 |
| **ReproStage2** | 1 | 3.25613445 | 3.25613445 | 0.31 | 0.6167 |
| **AvgBodyMa\*ReproStage** | 1 | 5.21055355 | 5.21055355 | 0.50 | 0.5321 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -29.35139157 | B | 23.40806767 | -1.25 | 0.2987 |
| **AvgBodyMass** | 5.41868298 | B | 2.93227013 | 1.85 | 0.1618 |
| **ReproStage2 P2** | 16.71457348 | B | 30.03203459 | 0.56 | 0.6167 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P2** | -2.71345642 | B | 3.85408724 | -0.70 | 0.5321 |
| **AvgBodyMa\*ReproStage P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 8.3518754 | 0.1987 |
| **P3** | 12.6898474 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 6 |
| **Number of Observations Used** | 6 |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 147.3152695 | 49.1050898 | 2.92 | 0.2656 |
| **Error** | 2 | 33.6706864 | 16.8353432 |  |  |
| **Corrected Total** | 5 | 180.9859559 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.813960 | 26.11326 | 4.103089 | 15.71267 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 39.08314939 | 39.08314939 | 2.32 | 0.2671 |
| **ReproStage2** | 1 | 57.70981640 | 57.70981640 | 3.43 | 0.2053 |
| **AvgBodyMa\*ReproStage** | 1 | 50.52230375 | 50.52230375 | 3.00 | 0.2254 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 8.11586427 | 8.11586427 | 0.48 | 0.5593 |
| **ReproStage2** | 1 | 45.32448847 | 45.32448847 | 2.69 | 0.2425 |
| **AvgBodyMa\*ReproStage** | 1 | 50.52230375 | 50.52230375 | 3.00 | 0.2254 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -71.3708515 | B | 36.91133827 | -1.93 | 0.1929 |
| **AvgBodyMass** | 12.6256104 | B | 5.22941205 | 2.41 | 0.1371 |
| **ReproStage2 P2** | 122.0020771 | B | 74.35527012 | 1.64 | 0.2425 |
| **ReproStage2 P3** | 0.0000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P2** | -18.0263080 | B | 10.40581743 | -1.73 | 0.2254 |
| **AvgBodyMa\*ReproStage P3** | 0.0000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only, WS2, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 12.3537808 | 0.2536 |
| **P3** | 18.1131619 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS1, effect of year controlling for preg |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 4 | 2016 2017 2018 2019 |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 5 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS1, effect of year controlling for preg |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 100.0896017 | 50.0448008 | 2.53 | 0.2832 |
| **Error** | 2 | 39.5364251 | 19.7682126 |  |  |
| **Corrected Total** | 4 | 139.6260268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.716841 | 27.01478 | 4.446146 | 16.45820 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 1 | 95.82966413 | 95.82966413 | 4.85 | 0.1586 |
| **ReproStage2** | 1 | 4.25993752 | 4.25993752 | 0.22 | 0.6881 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 1 | 86.64537202 | 86.64537202 | 4.38 | 0.1713 |
| **ReproStage2** | 1 | 4.25993752 | 4.25993752 | 0.22 | 0.6881 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 12.24671429 | B | 2.91068568 | 4.21 | 0.0521 |
| **year 2018** | 8.61785714 | B | 4.11633116 | 2.09 | 0.1713 |
| **year 2019** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 1.91085714 | B | 4.11633116 | 0.46 | 0.6881 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS1, effect of year controlling for preg |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **2018** | 21.8200000 | 0.1713 |
| **2019** | 13.2021429 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 4 | 2016 2017 2018 2019 |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 5 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 100.0896017 | 50.0448008 | 2.53 | 0.2832 |
| **Error** | 2 | 39.5364251 | 19.7682126 |  |  |
| **Corrected Total** | 4 | 139.6260268 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.716841 | 27.01478 | 4.446146 | 16.45820 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 1 | 95.82966413 | 95.82966413 | 4.85 | 0.1586 |
| **ReproStage2** | 1 | 4.25993752 | 4.25993752 | 0.22 | 0.6881 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 1 | 86.64537202 | 86.64537202 | 4.38 | 0.1713 |
| **ReproStage2** | 1 | 4.25993752 | 4.25993752 | 0.22 | 0.6881 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 12.24671429 | B | 2.91068568 | 4.21 | 0.0521 |
| **year 2018** | 8.61785714 | B | 4.11633116 | 2.09 | 0.1713 |
| **year 2019** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 1.91085714 | B | 4.11633116 | 0.46 | 0.6881 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **2018** | 21.8200000 | 0.1713 |
| **2019** | 13.2021429 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, effect of year controlling for preg |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 4 | 2016 2017 2018 2019 |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, effect of year controlling for preg |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 329.3893122 | 109.7964374 | 10.63 | 0.0224 |
| **Error** | 4 | 41.3161367 | 10.3290342 |  |  |
| **Corrected Total** | 7 | 370.7054488 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.888547 | 24.43157 | 3.213881 | 13.15462 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 217.4933700 | 108.7466850 | 10.53 | 0.0255 |
| **ReproStage2** | 1 | 111.8959421 | 111.8959421 | 10.83 | 0.0302 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 181.9195708 | 90.9597854 | 8.81 | 0.0343 |
| **ReproStage2** | 1 | 111.8959421 | 111.8959421 | 10.83 | 0.0302 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 22.39791720 | B | 2.03263712 | 11.02 | 0.0004 |
| **year 2016** | -9.88854440 | B | 2.48946189 | -3.97 | 0.0165 |
| **year 2018** | -9.81091720 | B | 3.80271585 | -2.58 | 0.0613 |
| **year 2019** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -8.19375160 | B | 2.48946189 | -3.29 | 0.0302 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, effect of year controlling for preg |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **2016** | 8.4124970 | 1 |
| **2018** | 8.4901242 | 2 |
| **2019** | 18.3010414 | 3 |

| **Least Squares Means for effect year Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.9847 | 0.0165 |
| **2** | 0.9847 |  | **0.0613** |
| **3** | 0.0165 | 0.0613 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 4 | 2016 2017 2018 2019 |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 13 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 329.3893122 | 109.7964374 | 10.63 | 0.0224 |
| **Error** | 4 | 41.3161367 | 10.3290342 |  |  |
| **Corrected Total** | 7 | 370.7054488 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.888547 | 24.43157 | 3.213881 | 13.15462 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 217.4933700 | 108.7466850 | 10.53 | 0.0255 |
| **ReproStage2** | 1 | 111.8959421 | 111.8959421 | 10.83 | 0.0302 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 181.9195708 | 90.9597854 | 8.81 | 0.0343 |
| **ReproStage2** | 1 | 111.8959421 | 111.8959421 | 10.83 | 0.0302 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 22.39791720 | B | 2.03263712 | 11.02 | 0.0004 |
| **year 2016** | -9.88854440 | B | 2.48946189 | -3.97 | 0.0165 |
| **year 2018** | -9.81091720 | B | 3.80271585 | -2.58 | 0.0613 |
| **year 2019** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -8.19375160 | B | 2.48946189 | -3.29 | 0.0302 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **2016** | 8.4124970 | 1 |
| **2018** | 8.4901242 | 2 |
| **2019** | 18.3010414 | 3 |

| **Least Squares Means for effect year Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.9847 | 0.0165 |
| **2** | 0.9847 |  | **0.0613** |
| **3** | 0.0165 | 0.0613 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 4 | 2016 2017 2018 2019 |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 12 |
| **Number of Observations Used** | 7 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 and excluding PG390 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 142.4487400 | 47.4829133 | 48.08 | 0.0049 |
| **Error** | 3 | 2.9627977 | 0.9875992 |  |  |
| **Corrected Total** | 6 | 145.4115377 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.979625 | 8.913743 | 0.993780 | 11.14886 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 77.21316303 | 38.60658151 | 39.09 | 0.0071 |
| **ReproStage2** | 1 | 65.23557695 | 65.23557695 | 66.05 | 0.0039 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 76.76734322 | 38.38367161 | 38.87 | 0.0072 |
| **ReproStage2** | 1 | 65.23557695 | 65.23557695 | 66.05 | 0.0039 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 19.19986200 | B | 0.81141820 | 23.66 | 0.0002 |
| **year 2016** | -7.49000300 | B | 0.86063896 | -8.70 | 0.0032 |
| **year 2018** | -6.61286200 | B | 1.28296482 | -5.15 | 0.0142 |
| **year 2019** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -6.59472400 | B | 0.81141820 | -8.13 | 0.0039 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS2, effect of year controlling for preg |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 4 | 2016 2017 2018 2019 |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 20 |
| **Number of Observations Used** | 13 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS2, effect of year controlling for preg |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 32.1809513 | 10.7269838 | 0.46 | 0.7178 |
| **Error** | 9 | 210.4393118 | 23.3821458 |  |  |
| **Corrected Total** | 12 | 242.6202631 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.132639 | 36.70475 | 4.835509 | 13.17407 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 31.90928123 | 15.95464062 | 0.68 | 0.5298 |
| **ReproStage2** | 1 | 0.27167006 | 0.27167006 | 0.01 | 0.9165 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 28.32056559 | 14.16028279 | 0.61 | 0.5666 |
| **ReproStage2** | 1 | 0.27167006 | 0.27167006 | 0.01 | 0.9165 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.53677049 | B | 3.44713356 | 3.93 | 0.0035 |
| **year 2016** | -3.78633449 | B | 4.85528606 | -0.78 | 0.4555 |
| **year 2018** | 1.15634426 | B | 3.03307315 | 0.38 | 0.7119 |
| **year 2019** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | -0.36552459 | B | 3.39107888 | -0.11 | 0.9165 |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p0, p1, WS2, effect of year controlling for preg |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **2016** | 9.5676737 | 1 |
| **2018** | 14.5103525 | 2 |
| **2019** | 13.3540082 | 3 |

| **Least Squares Means for effect year Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.3034 | 0.4555 |
| **2** | 0.3034 |  | 0.7119 |
| **3** | 0.4555 | 0.7119 |  |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS2, effect of year controlling for preg |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 2 | 2016 2018 |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 6 |
| **Number of Observations Used** | 6 |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS2, effect of year controlling for preg |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 52.8980902 | 26.4490451 | 0.62 | 0.5954 |
| **Error** | 3 | 128.0878657 | 42.6959552 |  |  |
| **Corrected Total** | 5 | 180.9859559 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.292277 | 41.58565 | 6.534214 | 15.71267 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 1 | 9.78437400 | 9.78437400 | 0.23 | 0.6649 |
| **ReproStage2** | 1 | 43.11371616 | 43.11371616 | 1.01 | 0.3890 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 1 | 9.78437400 | 9.78437400 | 0.23 | 0.6649 |
| **ReproStage2** | 1 | 43.11371616 | 43.11371616 | 1.01 | 0.3890 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 16.33113750 | B | 4.21781713 | 3.87 | 0.0305 |
| **year 2016** | 2.55400000 | B | 5.33516356 | 0.48 | 0.6649 |
| **year 2018** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -5.68641250 | B | 5.65879549 | -1.00 | 0.3890 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Singh Only early stage p2, p3, WS2, effect of year controlling for preg |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **2016** | 16.0419313 | 0.6649 |
| **2018** | 13.4879313 |  |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 3 |
| **Number of Observations Used** | 2 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 310.5032000 | 310.5032000 | . | . |
| **Error** | 0 | 0.0000000 | . |  |  |
| **Corrected Total** | 1 | 310.5032000 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 1.000000 | . | . | 24.17000 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 310.5032000 | 310.5032000 | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 310.5032000 | 310.5032000 | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 11.71000000 | B | . | . | . |
| **ReproStage2 P0** | 24.92000000 | B | . | . | . |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2 |
| **Number of Observations Used** | 1 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 0 | 0 | . | . | . |
| **Error** | 0 | 0 | . |  |  |
| **Corrected Total** | 0 | 0 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.000000 | . | . | 11.71000 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 0 | 0 | . | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 0 | 0 | . | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 11.71000000 | B | . | . | . |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P0-P1) |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2 |
| **Number of Observations Used** | 2 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P0-P1) |

The GLM Procedure

 Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 0.05870451 | 0.05870451 | . | . |
| **Error** | 0 | 0.00000000 | . |  |  |
| **Corrected Total** | 1 | 0.05870451 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 1.000000 | . | . | 13.72868 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 0.05870451 | 0.05870451 | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 0.05870451 | 0.05870451 | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.55735000 | B | . | . | . |
| **ReproStage2 P0** | 0.34265000 | B | . | . | . |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 12 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) |

The GLM Procedure

 Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 241.1563849 | 241.1563849 | 4.92 | 0.0683 |
| **Error** | 6 | 293.8182601 | 48.9697100 |  |  |
| **Corrected Total** | 7 | 534.9746451 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.450781 | 34.81359 | 6.997836 | 20.10088 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 241.1563849 | 241.1563849 | 4.92 | 0.0683 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 241.1563849 | 241.1563849 | 4.92 | **0.0683** |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 27.18896000 | B | 4.04020255 | 6.73 | 0.0005 |
| **ReproStage2 P2** | -11.34093200 | B | 5.11049691 | -2.22 | 0.0683 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 7 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 48.4028125 | 48.4028125 | 2.18 | 0.1998 |
| **Error** | 5 | 110.9885737 | 22.1977147 |  |  |
| **Corrected Total** | 6 | 159.3913862 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.303673 | 26.90545 | 4.711445 | 17.51112 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 48.40281251 | 48.40281251 | 2.18 | 0.1998 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 48.40281251 | 48.40281251 | 2.18 | 0.1998 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 21.66885000 | B | 3.33149476 | 6.50 | 0.0013 |
| **ReproStage2 P2** | -5.82082200 | B | 3.94187777 | -1.48 | 0.1998 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P2-P3) |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2 |
| **Number of Observations Used** | 2 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P2-P3) |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 0.26979654 | 0.26979654 | . | . |
| **Error** | 0 | 0.00000000 | . |  |  |
| **Corrected Total** | 1 | 0.26979654 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 1.000000 | . | . | 11.83233 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 0.26979654 | 0.26979654 | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **ReproStage2** | 1 | 0.26979654 | 0.26979654 | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 11.46504000 | B | . | . | . |
| **ReproStage2 P2** | 0.73457000 | B | . | . | . |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 3 |
| **Number of Observations Used** | 2 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 310.5032000 | 310.5032000 | . | . |
| **Error** | 0 | 0.0000000 | . |  |  |
| **Corrected Total** | 1 | 310.5032000 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 1.000000 | . | . | 24.17000 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 310.5032000 | 310.5032000 | . | . |
| **ReproStage2** | 0 | 0.0000000 | . | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 200.1004306 | B | . | . | . |
| **AvgBodyMass** | -23.8468900 | B | . | . | . |
| **ReproStage2 P0** | 0.0000000 | B | . | . | . |
| **ReproStage2 P1** | 0.0000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** |
| --- | --- |
| **P0** | Non-est |
| **P1** | Non-est |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 1 | P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2 |
| **Number of Observations Used** | 1 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 0 | 0 | . | . | . |
| **Error** | 0 | 0 | . |  |  |
| **Corrected Total** | 0 | 0 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.000000 | . | . | 11.71000 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 11.71000000 | B | . | . | . |
| **AvgBodyMass** | 0.00000000 | B | . | . | . |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** |
| --- | --- |
| **P1** | 11.7100000 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2 |
| **Number of Observations Used** | 2 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 0.05870451 | 0.05870451 | . | . |
| **Error** | 0 | 0.00000000 | . |  |  |
| **Corrected Total** | 1 | 0.05870451 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 1.000000 | . | . | 13.72868 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 0.05870451 | 0.05870451 | . | . |
| **ReproStage2** | 0 | 0.00000000 | . | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 29.77968594 | B | . | . | . |
| **AvgBodyMass** | -2.14156250 | B | . | . | . |
| **ReproStage2 P0** | 0.00000000 | B | . | . | . |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P0-P1) and body mass |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** |
| --- | --- |
| **P0** | Non-est |
| **P1** | Non-est |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 12 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 243.0289812 | 121.5144906 | 2.08 | 0.2200 |
| **Error** | 5 | 291.9456639 | 58.3891328 |  |  |
| **Corrected Total** | 7 | 534.9746451 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.454281 | 38.01465 | 7.641278 | 20.10088 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 122.9396927 | 122.9396927 | 2.11 | 0.2065 |
| **ReproStage2** | 1 | 120.0892885 | 120.0892885 | 2.06 | 0.2110 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 1.8725963 | 1.8725963 | 0.03 | 0.8649 |
| **ReproStage2** | 1 | 120.0892885 | 120.0892885 | 2.06 | 0.2110 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 39.76073136 | B | 70.33902091 | 0.57 | 0.5963 |
| **AvgBodyMass** | -1.48135562 |  | 8.27186169 | -0.18 | 0.8649 |
| **ReproStage2 P2** | -12.54774304 | B | 8.74942460 | -1.43 | 0.2110 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 15.3954739 | 0.2110 |
| **P3** | 27.9432169 |  |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 7 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

 Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 82.3796205 | 41.1898102 | 2.14 | 0.2334 |
| **Error** | 4 | 77.0117657 | 19.2529414 |  |  |
| **Corrected Total** | 6 | 159.3913862 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.516839 | 25.05732 | 4.387817 | 17.51112 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 81.56962383 | 81.56962383 | 4.24 | 0.1087 |
| **ReproStage2** | 1 | 0.80999665 | 0.80999665 | 0.04 | 0.8475 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 33.97680798 | 33.97680798 | 1.76 | 0.2548 |
| **ReproStage2** | 1 | 0.80999665 | 0.80999665 | 0.04 | 0.8475 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -40.65515595 | B | 47.01757952 | -0.86 | 0.4360 |
| **AvgBodyMass** | 7.19054006 |  | 5.41275995 | 1.33 | 0.2548 |
| **ReproStage2 P2** | 1.33736063 | B | 6.52011816 | 0.21 | 0.8475 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** | **H0:LSMean1=LSMean2** |
| --- | --- | --- |
| **Pr > |t|** |
| **P2** | 17.8932230 | 0.8475 |
| **P3** | 16.5558624 |  |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2 |
| **Number of Observations Used** | 2 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 0.26979654 | 0.26979654 | . | . |
| **Error** | 0 | 0.00000000 | . |  |  |
| **Corrected Total** | 1 | 0.26979654 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 1.000000 | . | . | 11.83233 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 0.26979654 | 0.26979654 | . | . |
| **ReproStage2** | 0 | 0.00000000 | . | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 18.00862333 | B | . | . | . |
| **AvgBodyMass** | -0.84433333 | B | . | . | . |
| **ReproStage2 P2** | 0.00000000 | B | . | . | . |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P2-P3) and body mass |

The GLM Procedure

Least Squares Means

| **ReproStage2** | **bmr LSMEAN** |
| --- | --- |
| **P2** | Non-est |
| **P3** | Non-est |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 3 |
| **Number of Observations Used** | 2 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 310.5032000 | 310.5032000 | . | . |
| **Error** | 0 | 0.0000000 | . |  |  |
| **Corrected Total** | 1 | 310.5032000 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 1.000000 | . | . | 24.17000 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 310.5032000 | 310.5032000 | . | . |
| **ReproStage2** | 0 | 0.0000000 | . | . | . |
| **AvgBodyMa\*ReproStage** | 0 | 0.0000000 | . | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |
| **AvgBodyMa\*ReproStage** | 0 | 0 | . | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 200.1004306 | B | . | . | . |
| **AvgBodyMass** | -23.8468900 | B | . | . | . |
| **ReproStage2 P0** | 0.0000000 | B | . | . | . |
| **ReproStage2 P1** | 0.0000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P0** | 0.0000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P1** | 0.0000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 1 | P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2 |
| **Number of Observations Used** | 1 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P0-P1) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 0 | 0 | . | . | . |
| **Error** | 0 | 0 | . |  |  |
| **Corrected Total** | 0 | 0 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.000000 | . | . | 11.71000 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |
| **AvgBodyMa\*ReproStage** | 0 | 0 | . | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |
| **AvgBodyMa\*ReproStage** | 0 | 0 | . | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 11.71000000 | B | . | . | . |
| **AvgBodyMass** | 0.00000000 | B | . | . | . |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2 |
| **Number of Observations Used** | 2 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P0-P1) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 0.05870451 | 0.05870451 | . | . |
| **Error** | 0 | 0.00000000 | . |  |  |
| **Corrected Total** | 1 | 0.05870451 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 1.000000 | . | . | 13.72868 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 0.05870451 | 0.05870451 | . | . |
| **ReproStage2** | 0 | 0.00000000 | . | . | . |
| **AvgBodyMa\*ReproStage** | 0 | 0.00000000 | . | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |
| **AvgBodyMa\*ReproStage** | 0 | 0 | . | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 29.77968594 | B | . | . | . |
| **AvgBodyMass** | -2.14156250 | B | . | . | . |
| **ReproStage2 P0** | 0.00000000 | B | . | . | . |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P0** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 12 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 348.4966818 | 116.1655606 | 2.49 | 0.1993 |
| **Error** | 4 | 186.4779633 | 46.6194908 |  |  |
| **Corrected Total** | 7 | 534.9746451 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.651427 | 33.96790 | 6.827847 | 20.10088 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 122.9396927 | 122.9396927 | 2.64 | 0.1797 |
| **ReproStage2** | 1 | 120.0892885 | 120.0892885 | 2.58 | 0.1838 |
| **AvgBodyMa\*ReproStage** | 1 | 105.4677006 | 105.4677006 | 2.26 | 0.2070 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 21.7712864 | 21.7712864 | 0.47 | 0.5319 |
| **ReproStage2** | 1 | 119.1605510 | 119.1605510 | 2.56 | 0.1851 |
| **AvgBodyMa\*ReproStage** | 1 | 105.4677006 | 105.4677006 | 2.26 | 0.2070 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 172.4652173 | B | 108.3262518 | 1.59 | 0.1866 |
| **AvgBodyMass** | -17.1181764 | B | 12.7558328 | -1.34 | 0.2507 |
| **ReproStage2 P2** | -205.8915201 | B | 128.7822391 | -1.60 | 0.1851 |
| **ReproStage2 P3** | 0.0000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P2** | 23.5407952 | B | 15.6511103 | 1.50 | 0.2070 |
| **AvgBodyMa\*ReproStage P3** | 0.0000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 7 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS1, controlling for pregnancy (P2-P3) and body mass dropping outlier |
| Interaction between preg and mass |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 84.8118132 | 28.2706044 | 1.14 | 0.4592 |
| **Error** | 3 | 74.5795730 | 24.8598577 |  |  |
| **Corrected Total** | 6 | 159.3913862 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.532098 | 28.47314 | 4.985966 | 17.51112 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 81.56962383 | 81.56962383 | 3.28 | 0.1678 |
| **ReproStage2** | 1 | 0.80999665 | 0.80999665 | 0.03 | 0.8683 |
| **AvgBodyMa\*ReproStage** | 1 | 2.43219274 | 2.43219274 | 0.10 | 0.7749 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 26.46838312 | 26.46838312 | 1.06 | 0.3780 |
| **ReproStage2** | 1 | 2.56452407 | 2.56452407 | 0.10 | 0.7691 |
| **AvgBodyMa\*ReproStage** | 1 | 2.43219274 | 2.43219274 | 0.10 | 0.7749 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | -82.43006835 | B | 143.8466393 | -0.57 | 0.6068 |
| **AvgBodyMass** | 12.01025882 | B | 16.5911079 | 0.72 | 0.5215 |
| **ReproStage2 P2** | 49.00376552 | B | 152.5721906 | 0.32 | 0.7691 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P2** | -5.58764010 | B | 17.8640017 | -0.31 | 0.7749 |
| **AvgBodyMa\*ReproStage P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2 |
| **Number of Observations Used** | 2 |

|  |
| --- |
| Hypothesis 2 – Ernst Only, WS2, controlling for pregnancy (P2-P3) and body mass |
| Interaction between preg and mass |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 0.26979654 | 0.26979654 | . | . |
| **Error** | 0 | 0.00000000 | . |  |  |
| **Corrected Total** | 1 | 0.26979654 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 1.000000 | . | . | 11.83233 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 1 | 0.26979654 | 0.26979654 | . | . |
| **ReproStage2** | 0 | 0.00000000 | . | . | . |
| **AvgBodyMa\*ReproStage** | 0 | 0.00000000 | . | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **AvgBodyMass** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |
| **AvgBodyMa\*ReproStage** | 0 | 0 | . | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 18.00862333 | B | . | . | . |
| **AvgBodyMass** | -0.84433333 | B | . | . | . |
| **ReproStage2 P2** | 0.00000000 | B | . | . | . |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P2** | 0.00000000 | B | . | . | . |
| **AvgBodyMa\*ReproStage P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p0, p1, WS1, effect of year controlling for preg |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 2 | 2017 2018 |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 3 |
| **Number of Observations Used** | 2 |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p0, p1, WS1, effect of year controlling for preg |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 310.5032000 | 310.5032000 | . | . |
| **Error** | 0 | 0.0000000 | . |  |  |
| **Corrected Total** | 1 | 310.5032000 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 1.000000 | . | . | 24.17000 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 0 | 0.0000000 | . | . | . |
| **ReproStage2** | 1 | 310.5032000 | 310.5032000 | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 0 | 0.0000000 | . | . | . |
| **ReproStage2** | 1 | 310.5032000 | 310.5032000 | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 11.71000000 | B | . | . | . |
| **year 2018** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 24.92000000 | B | . | . | . |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p0, p1, WS1, effect of year controlling for preg |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** |
| --- | --- |
| **2018** | 24.1700000 |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p0, p1, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 2 | 2017 2018 |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2 |
| **Number of Observations Used** | 1 |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p0, p1, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 0 | 0 | . | . | . |
| **Error** | 0 | 0 | . |  |  |
| **Corrected Total** | 0 | 0 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.000000 | . | . | 11.71000 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 11.71000000 | B | . | . | . |
| **year 2018** | 0.00000000 | B | . | . | . |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p0, p1, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** |
| --- | --- |
| **2018** | 11.7100000 |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p2, p3, WS1, effect of year |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 4 | 2016 2017 2018 2019 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 12 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p2, p3, WS1, effect of year |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 2 | 29.6129600 | 14.8064800 | 0.15 | 0.8673 |
| **Error** | 5 | 505.3616851 | 101.0723370 |  |  |
| **Corrected Total** | 7 | 534.9746451 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.055354 | 50.01510 | 10.05347 | 20.10088 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 29.61296000 | 14.80648000 | 0.15 | 0.8673 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 29.61296000 | 14.80648000 | 0.15 | 0.8673 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 17.36564000 | B | 10.05347388 | 1.73 | 0.1447 |
| **year 2016** | 5.12896667 | B | 11.60875170 | 0.44 | 0.6771 |
| **year 2018** | 1.62375000 | B | 11.24012550 | 0.14 | 0.8908 |
| **year 2019** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p2, p3, WS1, effect of year |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **2016** | 22.4946067 | 1 |
| **2018** | 18.9893900 | 2 |
| **2019** | 17.3656400 | 3 |

| **Least Squares Means for effect year Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.6672 | 0.6771 |
| **2** | 0.6672 |  | 0.8908 |
| **3** | 0.6771 | 0.8908 |  |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p2, p3, WS1, effect of year controlling for preg |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 4 | 2016 2017 2018 2019 |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 12 |
| **Number of Observations Used** | 8 |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p2, p3, WS1, effect of year controlling for preg |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 247.9758843 | 82.6586281 | 1.15 | 0.4305 |
| **Error** | 4 | 286.9987608 | 71.7496902 |  |  |
| **Corrected Total** | 7 | 534.9746451 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.463528 | 42.14005 | 8.470519 | 20.10088 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 29.6129600 | 14.8064800 | 0.21 | 0.8217 |
| **ReproStage2** | 1 | 218.3629243 | 218.3629243 | 3.04 | 0.1560 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 6.8194994 | 3.4097497 | 0.05 | 0.9541 |
| **ReproStage2** | 1 | 218.3629243 | 218.3629243 | 3.04 | 0.1560 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 29.78089412 | B | 11.06329654 | 2.69 | 0.0546 |
| **year 2016** | -3.14786941 | B | 10.87087670 | -0.29 | 0.7865 |
| **year 2018** | -1.48006353 | B | 9.63600230 | -0.15 | 0.8854 |
| **year 2019** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -12.41525412 | B | 7.11665934 | -1.74 | 0.1560 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p2, p3, WS1, effect of year controlling for preg |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **2016** | 20.4253976 | 1 |
| **2018** | 22.0932035 | 2 |
| **2019** | 23.5732671 | 3 |

| **Least Squares Means for effect year Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.8262 | 0.7865 |
| **2** | 0.8262 |  | 0.8854 |
| **3** | 0.7865 | 0.8854 |  |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p2, p3, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 4 | 2016 2017 2018 2019 |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 11 |
| **Number of Observations Used** | 7 |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p2, p3, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 3 | 100.9930153 | 33.6643384 | 1.73 | 0.3319 |
| **Error** | 3 | 58.3983708 | 19.4661236 |  |  |
| **Corrected Total** | 6 | 159.3913862 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 0.633617 | 25.19566 | 4.412043 | 17.51112 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 25.39489808 | 12.69744904 | 0.65 | 0.5818 |
| **ReproStage2** | 1 | 75.59811726 | 75.59811726 | 3.88 | 0.1434 |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 2 | 52.59020284 | 26.29510142 | 1.35 | 0.3817 |
| **ReproStage2** | 1 | 75.59811726 | 75.59811726 | 3.88 | 0.1434 |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 25.14243200 | B | 5.91937687 | 4.25 | 0.0239 |
| **year 2016** | -6.62671600 | B | 5.75260029 | -1.15 | 0.3328 |
| **year 2018** | -0.32044800 | B | 5.03050303 | -0.06 | 0.9532 |
| **year 2019** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | -7.77679200 | B | 3.94625125 | -1.97 | 0.1434 |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p2, p3, WS1, effect of year controlling for preg dropping outlier |
| No BMR less than 35 |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** | **LSMEAN Number** |
| --- | --- | --- |
| **2016** | 14.6273200 | 1 |
| **2018** | 20.9335880 | 2 |
| **2019** | 21.2540360 | 3 |

| **Least Squares Means for effect year Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: bmr** | | | |
| --- | --- | --- | --- |
| **i/j** | **1** | **2** | **3** |
| **1** |  | 0.2083 | 0.3328 |
| **2** | 0.2083 |  | 0.9532 |
| **3** | 0.3328 | 0.9532 |  |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p0, p1, WS2, effect of year controlling for preg |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 2 | 2018 2019 |
| **ReproStage2** | 2 | P0 P1 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2 |
| **Number of Observations Used** | 2 |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p0, p1, WS2, effect of year controlling for preg |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 0.05870451 | 0.05870451 | . | . |
| **Error** | 0 | 0.00000000 | . |  |  |
| **Corrected Total** | 1 | 0.05870451 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 1.000000 | . | . | 13.72868 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 1 | 0.05870451 | 0.05870451 | . | . |
| **ReproStage2** | 0 | 0.00000000 | . | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 0 | 0 | . | . | . |
| **ReproStage2** | 0 | 0 | . | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 13.55735000 | B | . | . | . |
| **year 2018** | 0.34265000 | B | . | . | . |
| **year 2019** | 0.00000000 | B | . | . | . |
| **ReproStage2 P0** | 0.00000000 | B | . | . | . |
| **ReproStage2 P1** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p0, p1, WS2, effect of year controlling for preg |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** |
| --- | --- |
| **2018** | Non-est |
| **2019** | Non-est |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p2, p3, WS2, effect of year controlling for preg |

The GLM Procedure

| **Class Level Information** | | |
| --- | --- | --- |
| **Class** | **Levels** | **Values** |
| **year** | 1 | 2016 |
| **ReproStage2** | 2 | P2 P3 |

|  |  |
| --- | --- |
| **Number of Observations Read** | 2 |
| **Number of Observations Used** | 2 |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p2, p3, WS2, effect of year controlling for preg |

The GLM Procedure

Dependent Variable: bmr

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **Model** | 1 | 0.26979654 | 0.26979654 | . | . |
| **Error** | 0 | 0.00000000 | . |  |  |
| **Corrected Total** | 1 | 0.26979654 |  |  |  |

| **R-Square** | **Coeff Var** | **Root MSE** | **bmr Mean** |
| --- | --- | --- | --- |
| 1.000000 | . | . | 11.83233 |

| **Source** | **DF** | **Type I SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 0 | 0.00000000 | . | . | . |
| **ReproStage2** | 1 | 0.26979654 | 0.26979654 | . | . |

| **Source** | **DF** | **Type III SS** | **Mean Square** | **F Value** | **Pr > F** |
| --- | --- | --- | --- | --- | --- |
| **year** | 0 | 0.00000000 | . | . | . |
| **ReproStage2** | 1 | 0.26979654 | 0.26979654 | . | . |

| **Parameter** | **Estimate** |  | **Standard Error** | **t Value** | **Pr > |t|** |
| --- | --- | --- | --- | --- | --- |
| **Intercept** | 11.46504000 | B | . | . | . |
| **year 2016** | 0.00000000 | B | . | . | . |
| **ReproStage2 P2** | 0.73457000 | B | . | . | . |
| **ReproStage2 P3** | 0.00000000 | B | . | . | . |

|  |
| --- |
| Hypothesis 2 – Ernst Only early stage p2, p3, WS2, effect of year controlling for preg |

The GLM Procedure

Least Squares Means

| **year** | **bmr LSMEAN** |
| --- | --- |
| **2016** | 11.8323250 |