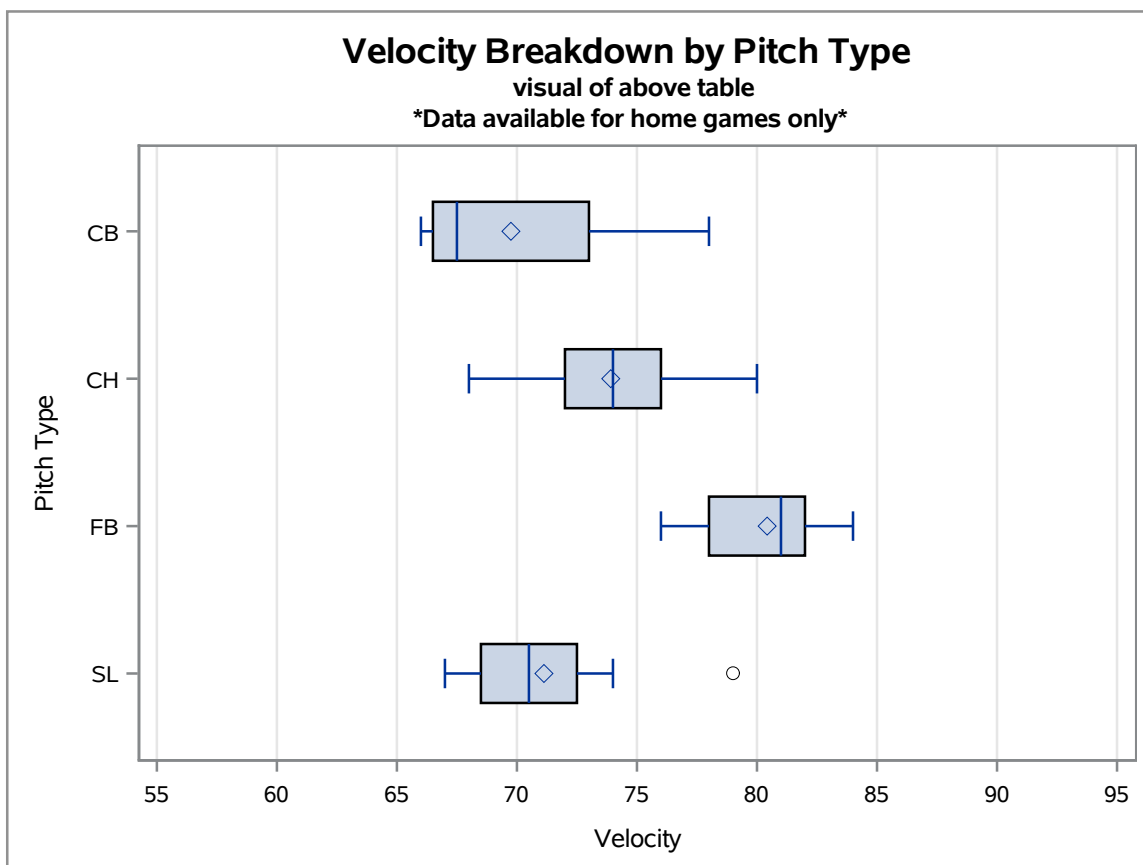


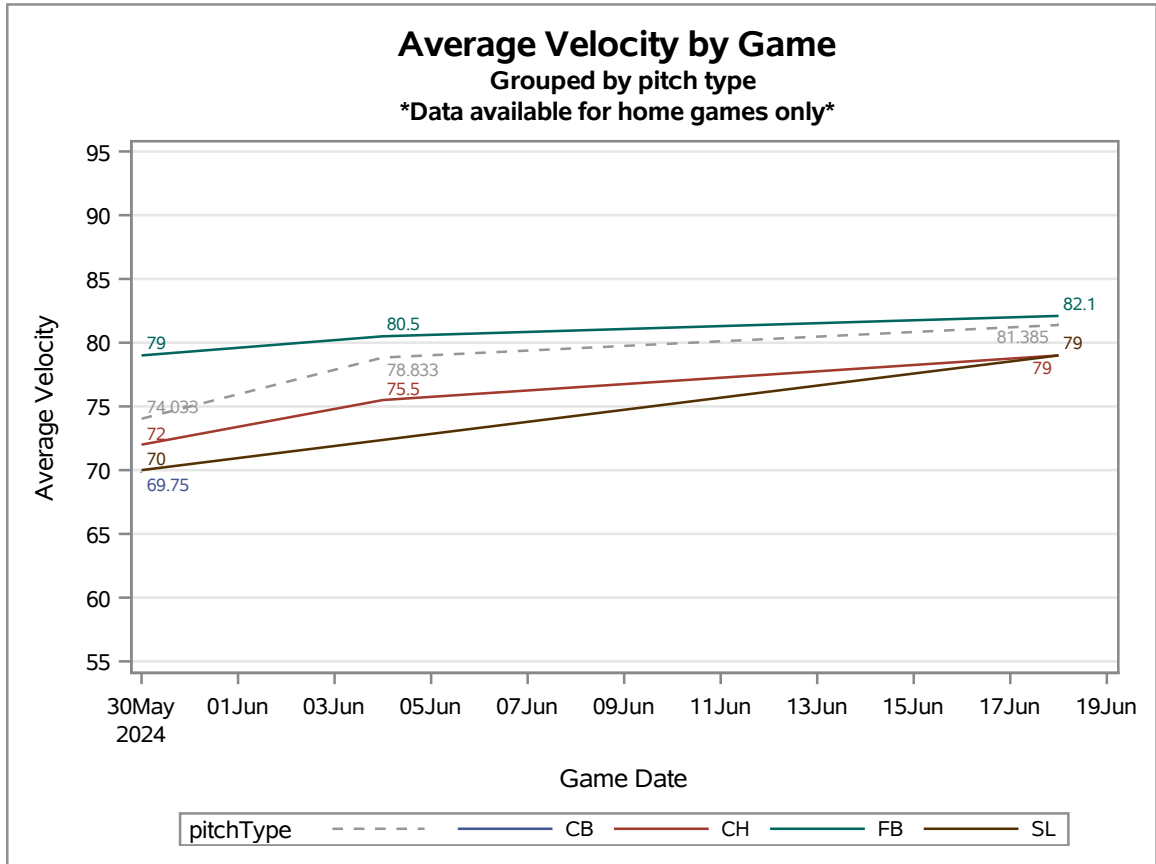
# Velocity Breakdown by Pitch Type

\*Data available for home games only\*

1

| Analysis Variable : velocity |          |    |         |      |         |
|------------------------------|----------|----|---------|------|---------|
| pitchType                    | N<br>Obs | N  | Minimum | Mean | Maximum |
| CB                           | 4        | 4  | 66.0    | 69.8 | 78.0    |
| CH                           | 11       | 11 | 68.0    | 73.9 | 80.0    |
| FB                           | 26       | 26 | 76.0    | 80.4 | 84.0    |
| SL                           | 8        | 8  | 67.0    | 71.1 | 79.0    |





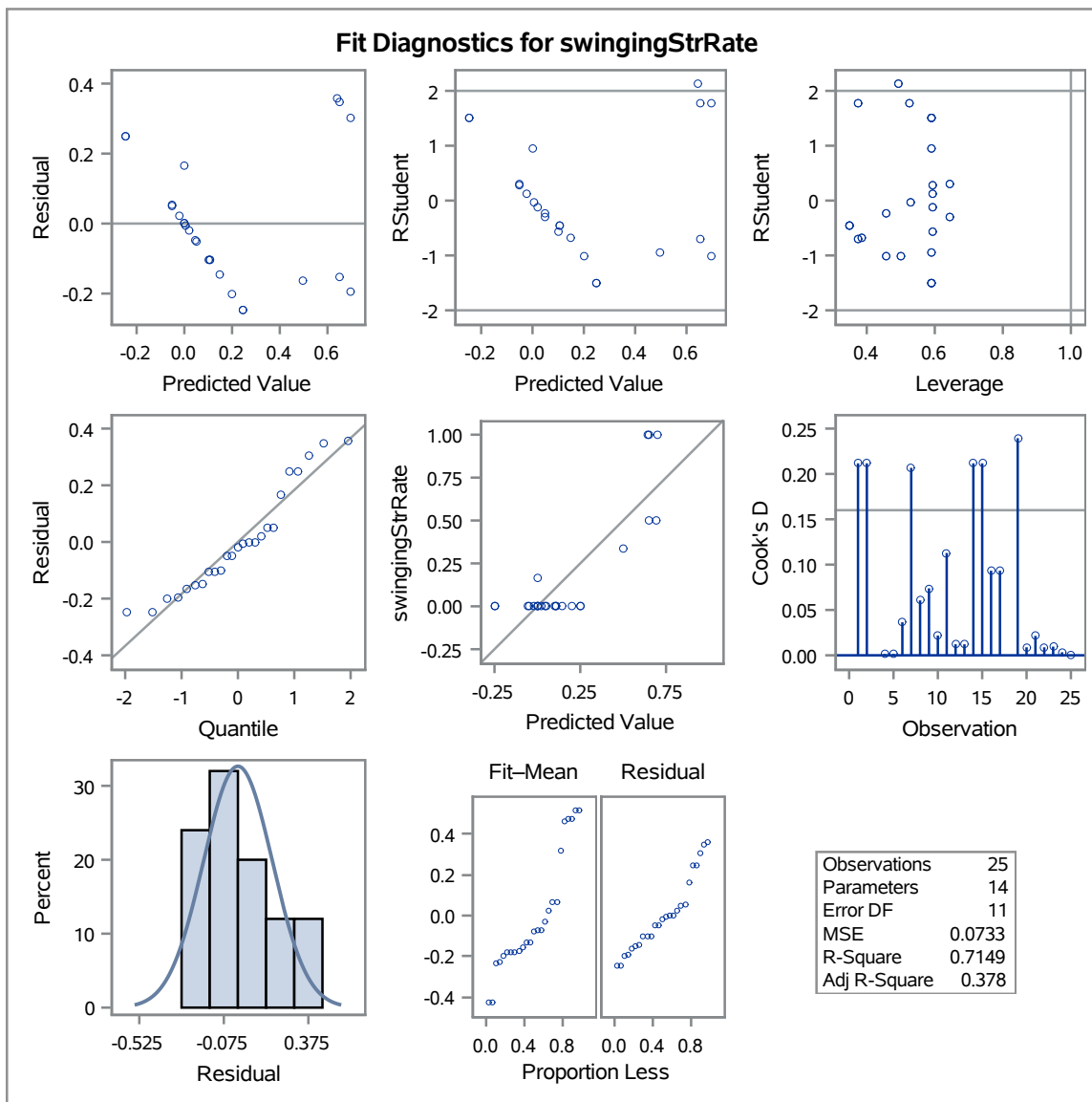
Dependent Variable: swingingStrRate

| Source                 | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|------------------------|----|----------------|-------------|---------|--------|
| <b>Model</b>           | 13 | 2.02235791     | 0.15556599  | 2.12    | 0.1096 |
| <b>Error</b>           | 11 | 0.80653098     | 0.07332100  |         |        |
| <b>Corrected Total</b> | 24 | 2.82888889     |             |         |        |

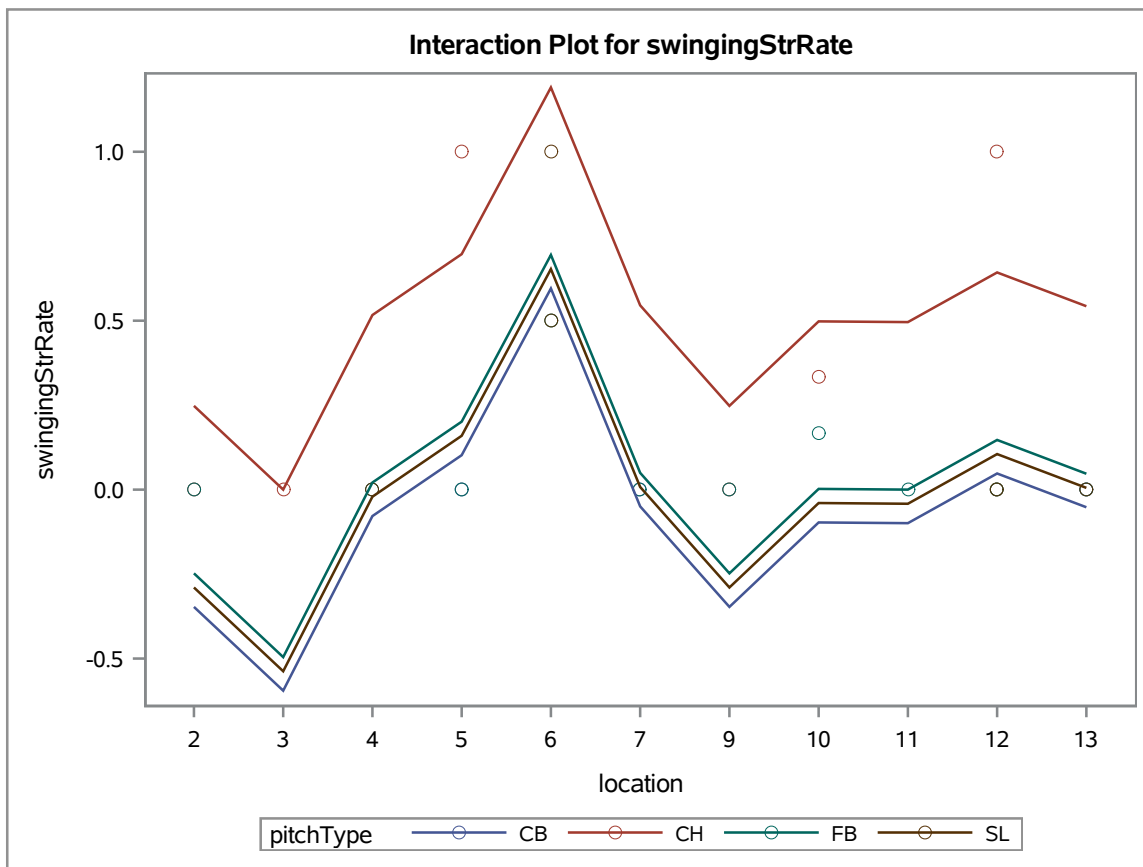
| R-Square | Coeff Var | Root MSE | swingingStrRate Mean |
|----------|-----------|----------|----------------------|
| 0.714895 | 150.4325  | 0.270779 | 0.180000             |

| Source           | DF | Type III SS | Mean Square | F Value | Pr > F |
|------------------|----|-------------|-------------|---------|--------|
| <b>location</b>  | 10 | 1.50550605  | 0.15055061  | 2.05    | 0.1268 |
| <b>pitchType</b> | 3  | 0.79069124  | 0.26356375  | 3.59    | 0.0497 |

Dependent Variable: swingingStrRate



Dependent Variable: swingingStrRate



**Least Squares Means**  
**Adjustment for Multiple Comparisons: Tukey-Kramer**

| pitchType | swingingStrRate<br>LSMEAN | LSMEAN<br>Number |
|-----------|---------------------------|------------------|
| CB        | -0.08374967               | 1                |
| CH        | 0.51130263                | 2                |
| FB        | 0.01553640                | 3                |
| SL        | -0.02630321               | 4                |

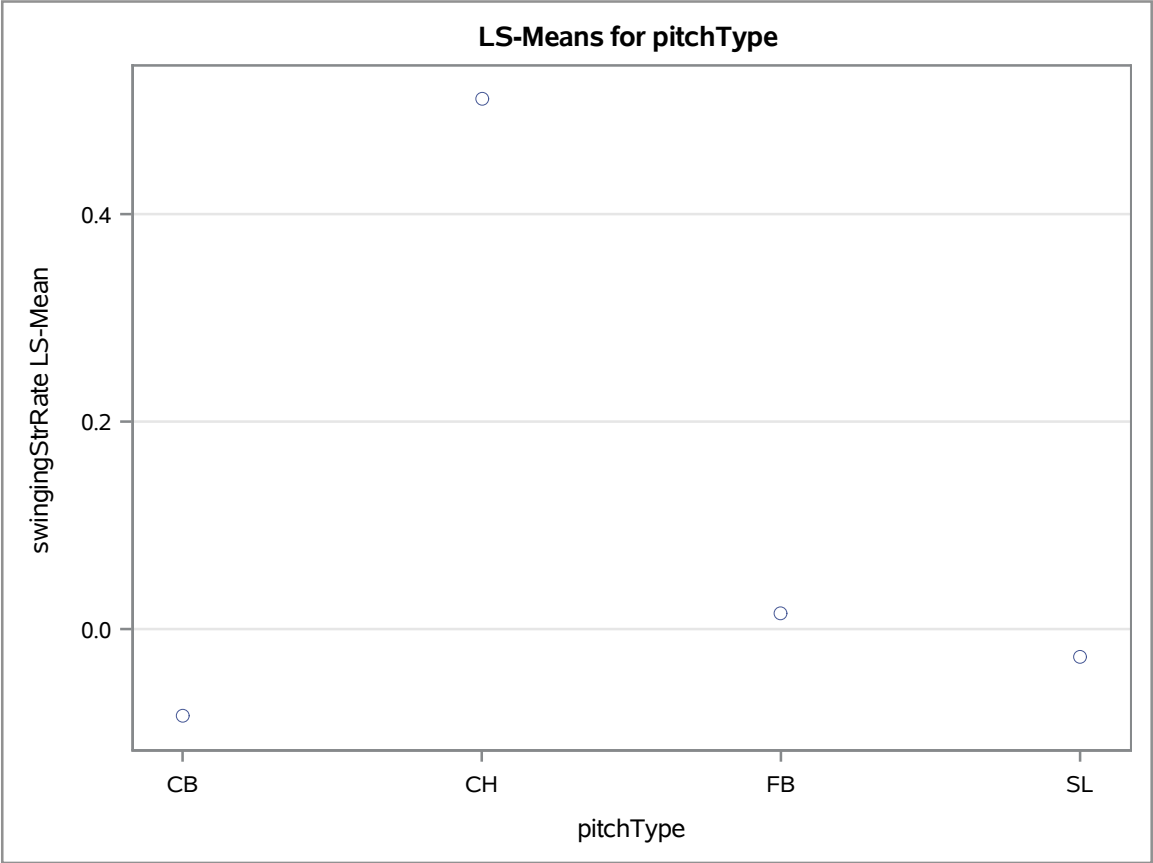
| Least Squares Means for effect pitchType<br>Pr >  t  for H0: LSMean(i)=LSMean(j)<br>Dependent Variable: swingingStrRate |        |        |        |        |
|---|--------|--------|--------|--------|
| i/j   | 1      | 2      | 3      | 4      |
| 1   |        | 0.1171 | 0.9612 | 0.9949 |
| 2   | 0.1171 |        | 0.0482 | 0.1013 |
| 3   | 0.9612 | 0.0482 |        | 0.9940 |
| 4   | 0.9949 | 0.1013 | 0.9940 |        |

| pitchType | swingingStrRate<br>LSMEAN | 95%<br>Confidence Limits |          |
|-----------|---------------------------|--------------------------|----------|
| CB        | -0.083750                 | -0.500484                | 0.332984 |
| CH        | 0.511303                  | 0.227386                 | 0.795219 |
| FB        | 0.015536                  | -0.182533                | 0.213605 |
| SL        | -0.026303                 | -0.347685                | 0.295079 |

| Least Squares Means for Effect pitchType |   |                                |  |          |
|--|---|--------------------------------|--|----------|
| i  | j | Difference<br>Between<br>Means | Simultaneous 95%<br>Confidence Limits for<br>LSMean(i)-LSMean(j) |          |
| 1  | 2 | -0.595052                      | -1.314756  | 0.124652 |
| 1  | 3 | -0.099286                      | -0.717105  | 0.518532 |
| 1  | 4 | -0.057446                      | -0.780360  | 0.665467 |
| 2  | 3 | 0.495766                       | 0.003711   | 0.987821 |

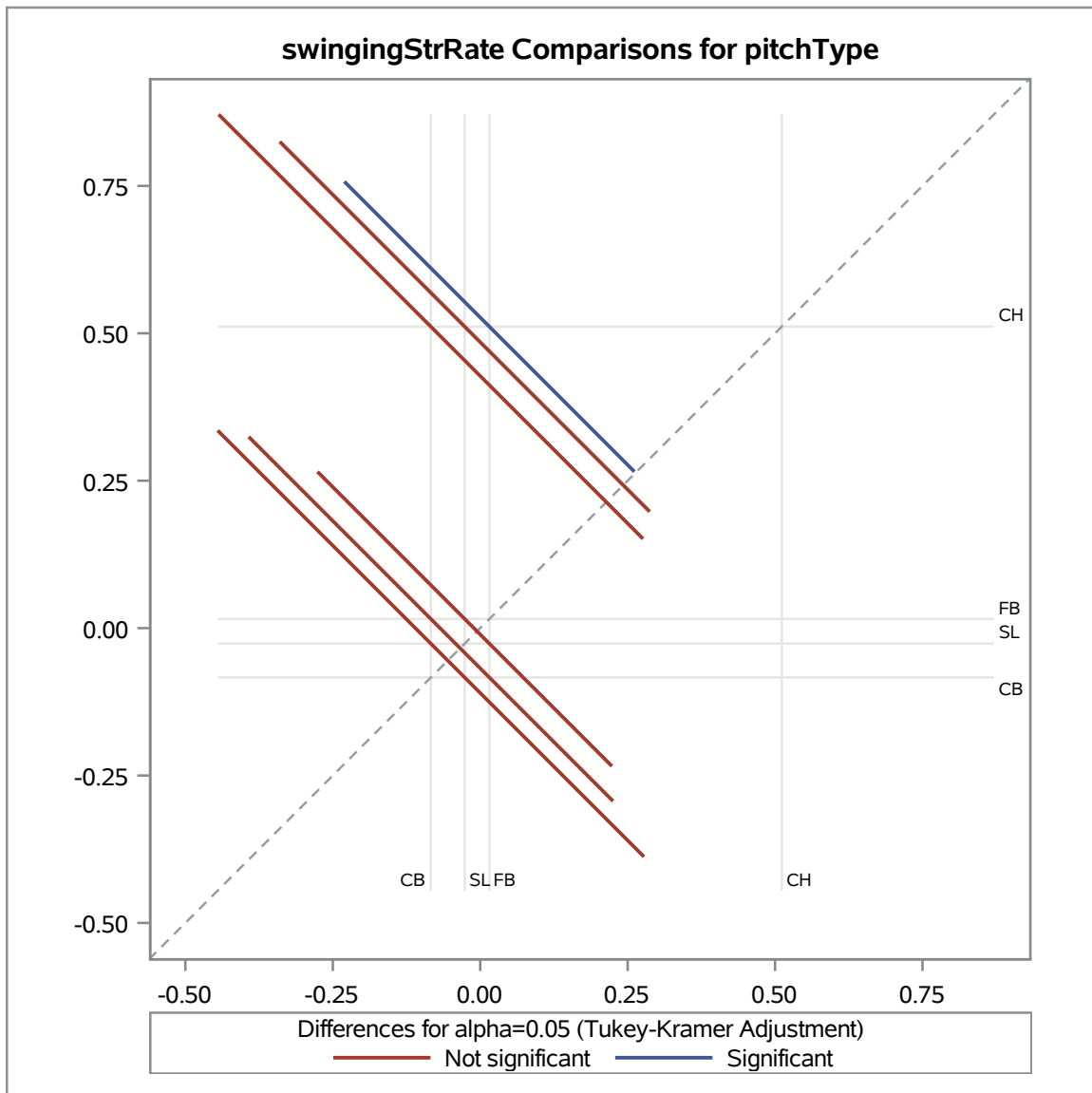
Least Squares Means  
Adjustment for Multiple Comparisons: Tukey-Kramer

| Least Squares Means for Effect pitchType |   |                                |  |          |
|--|---|--------------------------------|--|----------|
| i  | j | Difference<br>Between<br>Means | Simultaneous 95%<br>Confidence Limits for<br>LSMean(i)-LSMean(j) |          |
| 2  | 4 | 0.537606                       | -0.089775  | 1.164987 |
| 3  | 4 | 0.041840                       | -0.457555  | 0.541234 |





Least Squares Means  
Adjustment for Multiple Comparisons: Tukey-Kramer



**Swinging Strike Rate by Zone**  
Zones 1-9 are inside strikezone, 10-13 are outside of zone

| Pitch Location | Total Pitches | Total Swings | Total Misses | Swinging Strike Rate |
|----------------|---------------|--------------|--------------|----------------------|
| 2              | 2             | 2            | 0            | 0.00%                |
| 3              | 1             | 1            | 0            | 0.00%                |
| 4              | 3             | 2            | 0            | 0.00%                |
| 5              | 5             | 4            | 1            | 20.00%               |
| 6              | 5             | 3            | 2            | 40.00%               |
| 7              | 2             | 2            | 0            | 0.00%                |
| 9              | 2             | 0            | 0            | 0.00%                |
| 10             | 9             | 2            | 2            | 22.22%               |
| 11             | 3             | 0            | 0            | 0.00%                |
| 12             | 12            | 2            | 1            | 8.33%                |
| 13             | 11            | 2            | 0            | 0.00%                |

## Swing and Miss Data by Pitch Type

| Pitch Type | Total Pitches | Total Swings | Total Misses | Swinging Strike Rate |
|------------|---------------|--------------|--------------|----------------------|
| CB         | 5             | 3            | 0            | 0.00%                |
| CH         | 12            | 5            | 3            | 25.00%               |
| FB         | 30            | 9            | 2            | 6.67%                |
| SL         | 8             | 3            | 1            | 12.50%               |

\*Data available for home games only\*

Dependent Variable: velocity

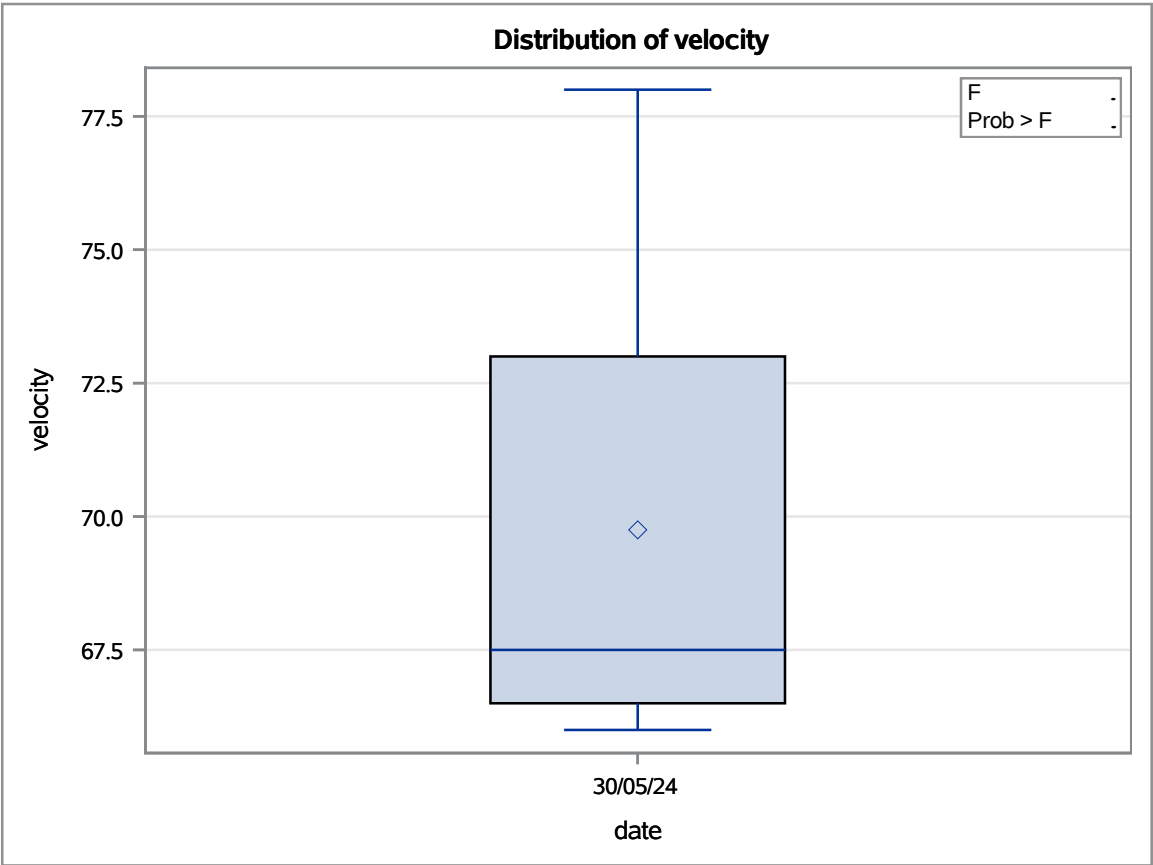
pitchType=CB

| Source          | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model           | 0  | 0.00000000     | .           | .       | .      |
| Error           | 3  | 92.75000000    | 30.91666667 |         |        |
| Corrected Total | 3  | 92.75000000    |             |         |        |

| R-Square | Coeff Var | Root MSE | velocity Mean |
|----------|-----------|----------|---------------|
| 0.000000 | 7.971722  | 5.560276 | 69.75000      |

| Source | DF | Type I SS | Mean Square | F Value | Pr > F |
|--------|----|-----------|-------------|---------|--------|
| date   | 0  | 0         | .           | .       | .      |

| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| date   | 0  | 0           | .           | .       | .      |



# Regression Analysis of Velocity by Pitch Type

\*Data available for home games only\*

13

Dependent Variable: velocity

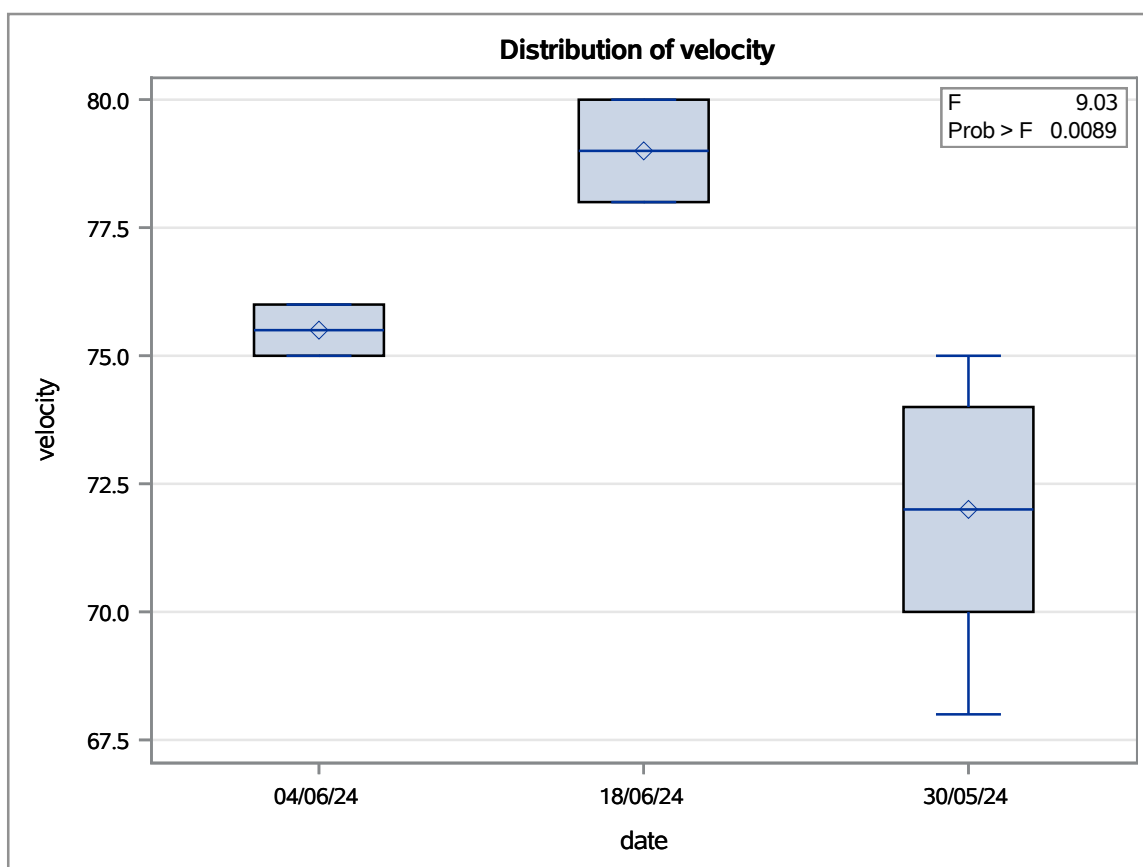
pitchType=CH

| Source          | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model           | 2  | 82.4090909     | 41.2045455  | 9.03    | 0.0089 |
| Error           | 8  | 36.5000000     | 4.5625000   |         |        |
| Corrected Total | 10 | 118.9090909    |             |         |        |

| R-Square | Coeff Var | Root MSE | velocity Mean |
|----------|-----------|----------|---------------|
| 0.693043 | 2.890038  | 2.136001 | 73.90909      |

| Source | DF | Type I SS   | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| date   | 2  | 82.40909091 | 41.20454545 | 9.03    | 0.0089 |

| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| date   | 2  | 82.40909091 | 41.20454545 | 9.03    | 0.0089 |



# Regression Analysis of Velocity by Pitch Type

\*Data available for home games only\*

14

Dependent Variable: velocity

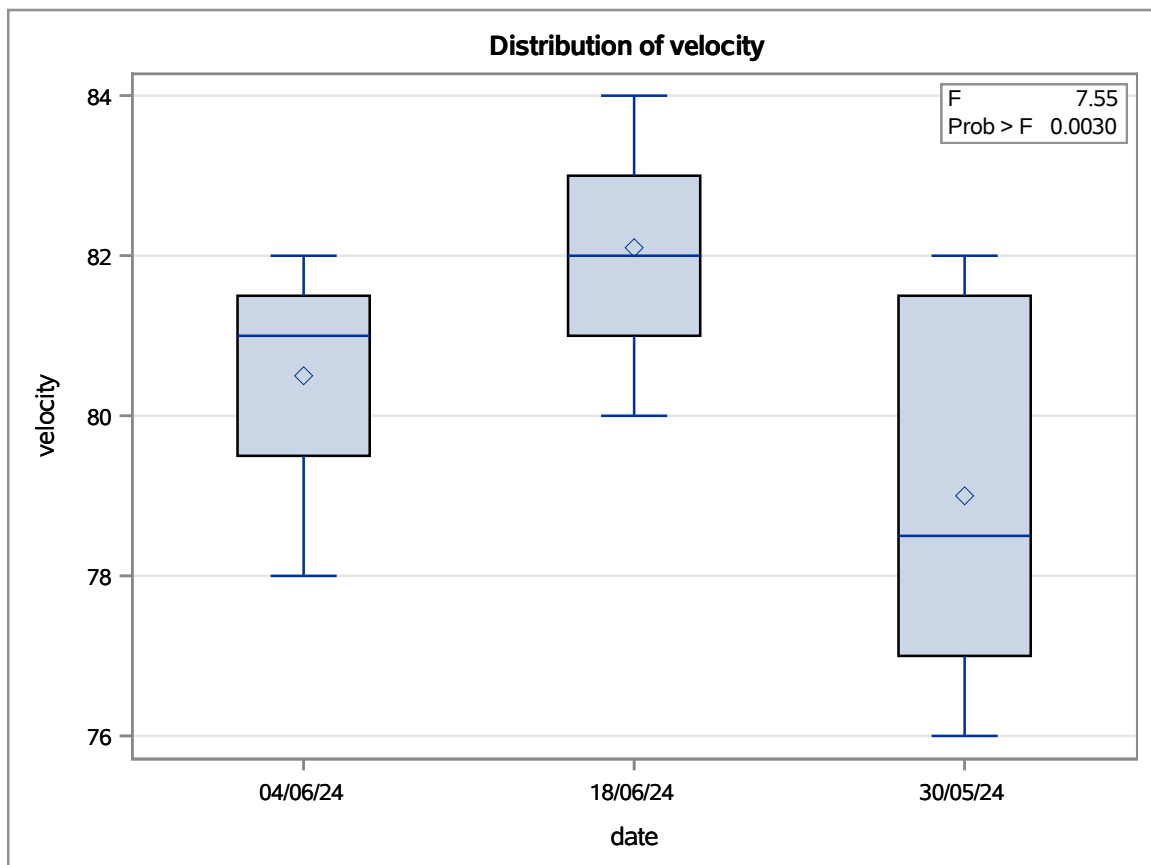
pitchType=FB

| Source          | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model           | 2  | 52.4461538     | 26.2230769  | 7.55    | 0.0030 |
| Error           | 23 | 79.9000000     | 3.4739130   |         |        |
| Corrected Total | 25 | 132.3461538    |             |         |        |

| R-Square | Coeff Var | Root MSE | velocity Mean |
|----------|-----------|----------|---------------|
| 0.396280 | 2.317548  | 1.863844 | 80.42308      |

| Source | DF | Type I SS   | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| date   | 2  | 52.44615385 | 26.22307692 | 7.55    | 0.0030 |

| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| date   | 2  | 52.44615385 | 26.22307692 | 7.55    | 0.0030 |



\*Data available for home games only\*

Dependent Variable: velocity

pitchType=SL

| Source          | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model           | 1  | 70.8750000     | 70.8750000  | 11.81   | 0.0139 |
| Error           | 6  | 36.0000000     | 6.0000000   |         |        |
| Corrected Total | 7  | 106.8750000    |             |         |        |

| R-Square | Coeff Var | Root MSE | velocity Mean |
|----------|-----------|----------|---------------|
| 0.663158 | 3.443922  | 2.449490 | 71.12500      |

| Source | DF | Type I SS   | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| date   | 1  | 70.87500000 | 70.87500000 | 11.81   | 0.0139 |

| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| date   | 1  | 70.87500000 | 70.87500000 | 11.81   | 0.0139 |

