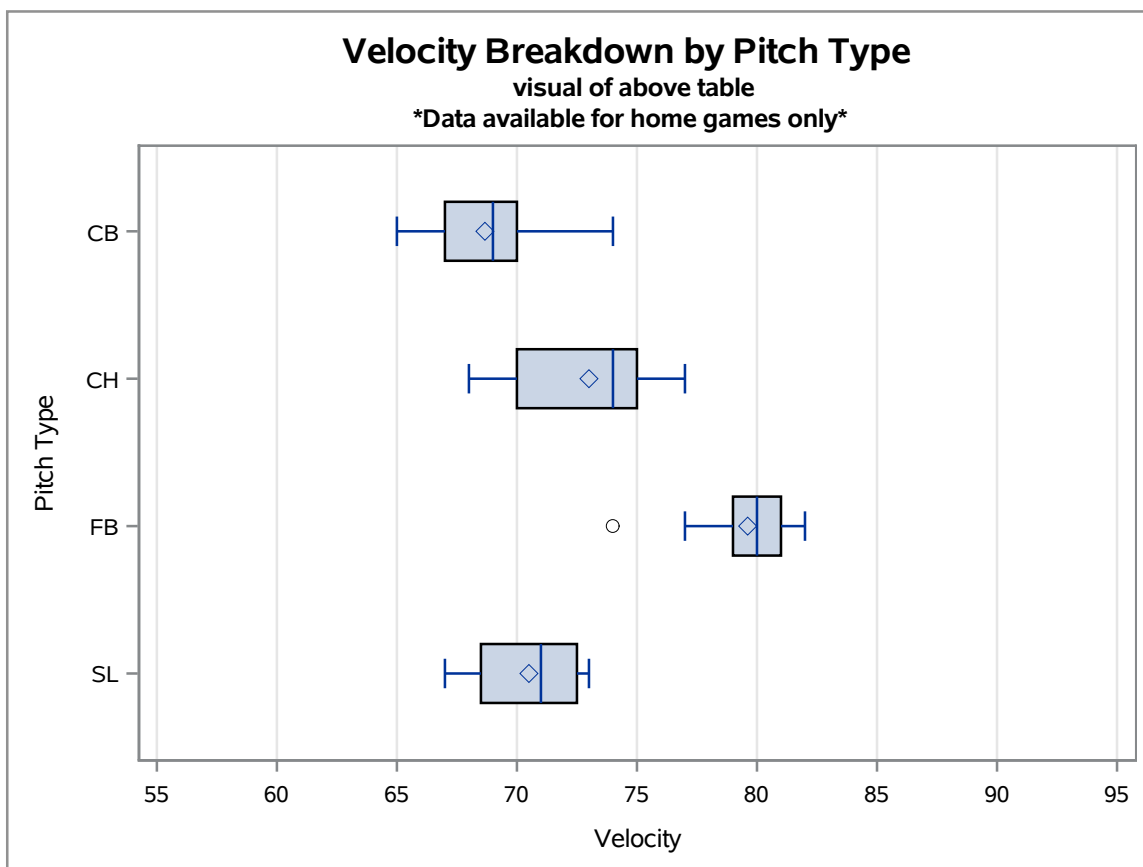


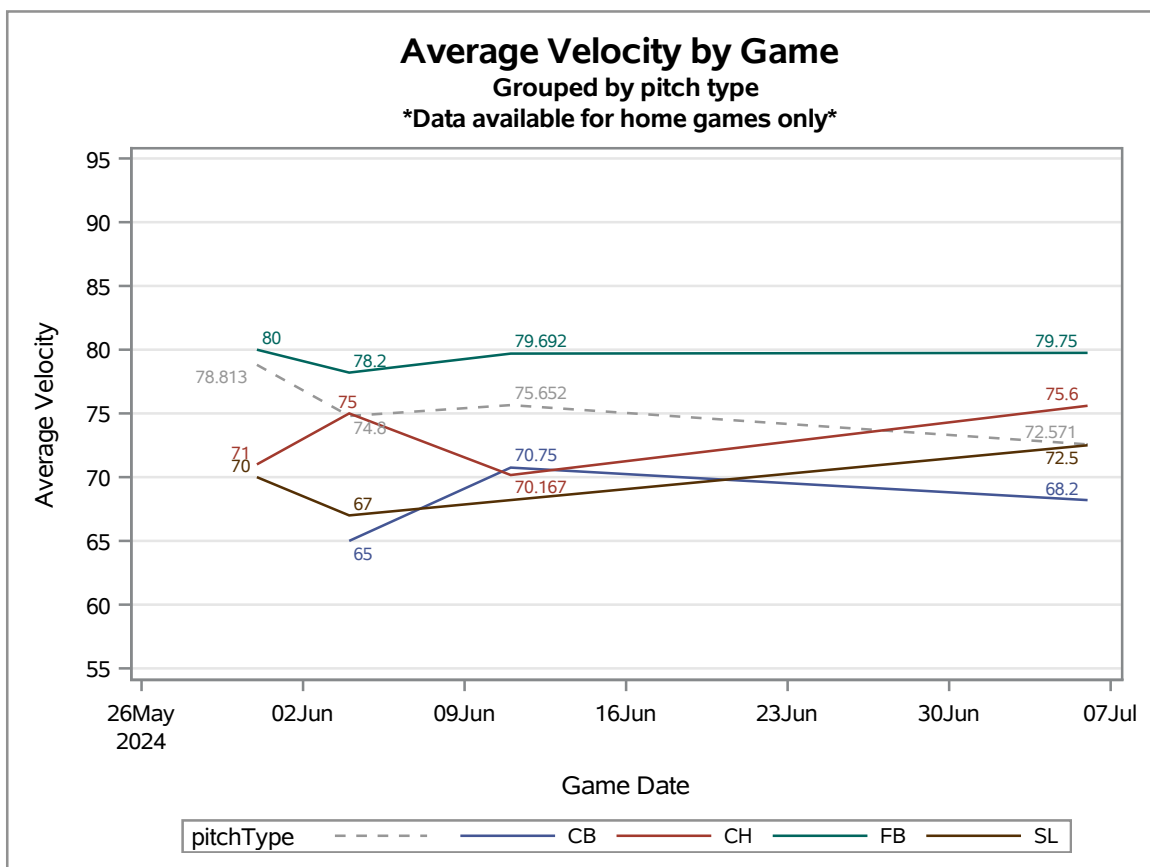
# Velocity Breakdown by Pitch Type

\*Data available for home games only\*

1

Analysis Variable : velocity					
pitchType	N Obs	N	Minimum	Mean	Maximum
CB	15	15	65.0	68.7	74.0
CH	15	15	68.0	73.0	77.0
FB	36	36	74.0	79.6	82.0
SL	4	4	67.0	70.5	73.0





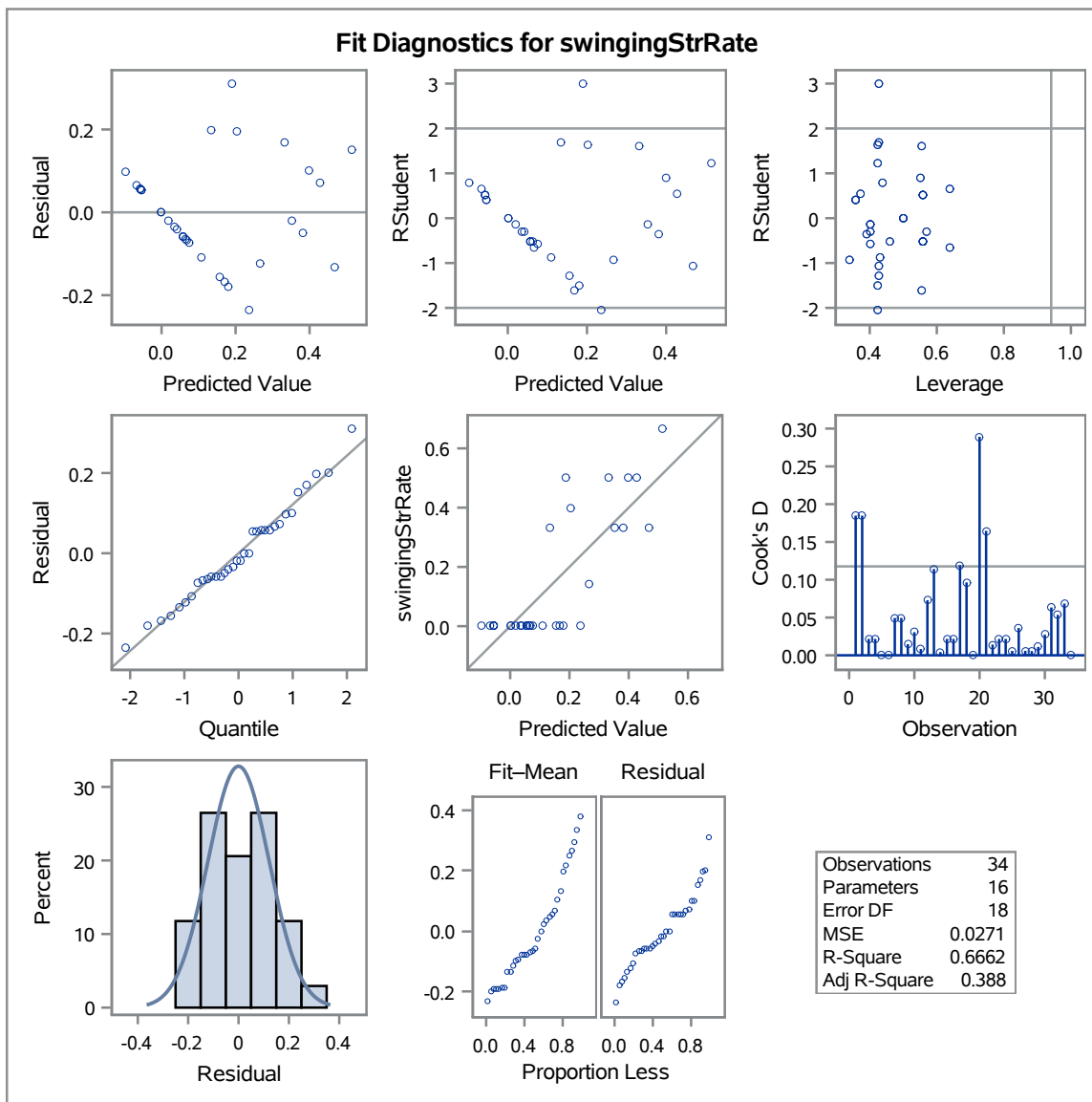
Dependent Variable: swingingStrRate

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
<b>Model</b>	15	0.97416939	0.06494463	2.39	0.0400
<b>Error</b>	18	0.48814087	0.02711894		
<b>Corrected Total</b>	33	1.46231026			

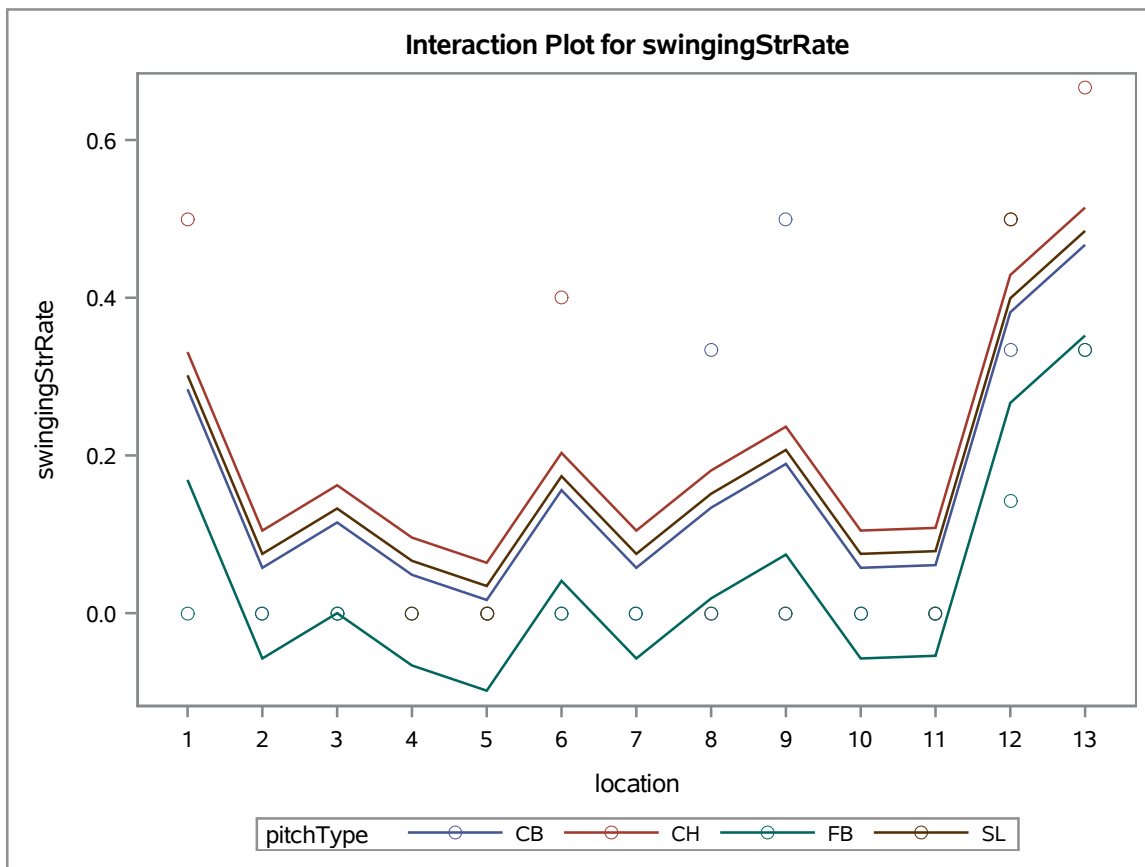
R-Square	Coeff Var	Root MSE	swingingStrRate Mean
0.666185	123.2498	0.164678	0.133613

Source	DF	Type III SS	Mean Square	F Value	Pr > F
<b>location</b>	12	0.66756681	0.05563057	2.05	0.0817
<b>pitchType</b>	3	0.14507531	0.04835844	1.78	0.1864

Dependent Variable: swingingStrRate



Dependent Variable: swingingStrRate



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

pitchType	swingingStrRate LSMEAN	LSMEAN Number
CB	0.15578164	1
CH	0.20298621	2
FB	0.04078894	3
SL	0.17347536	4

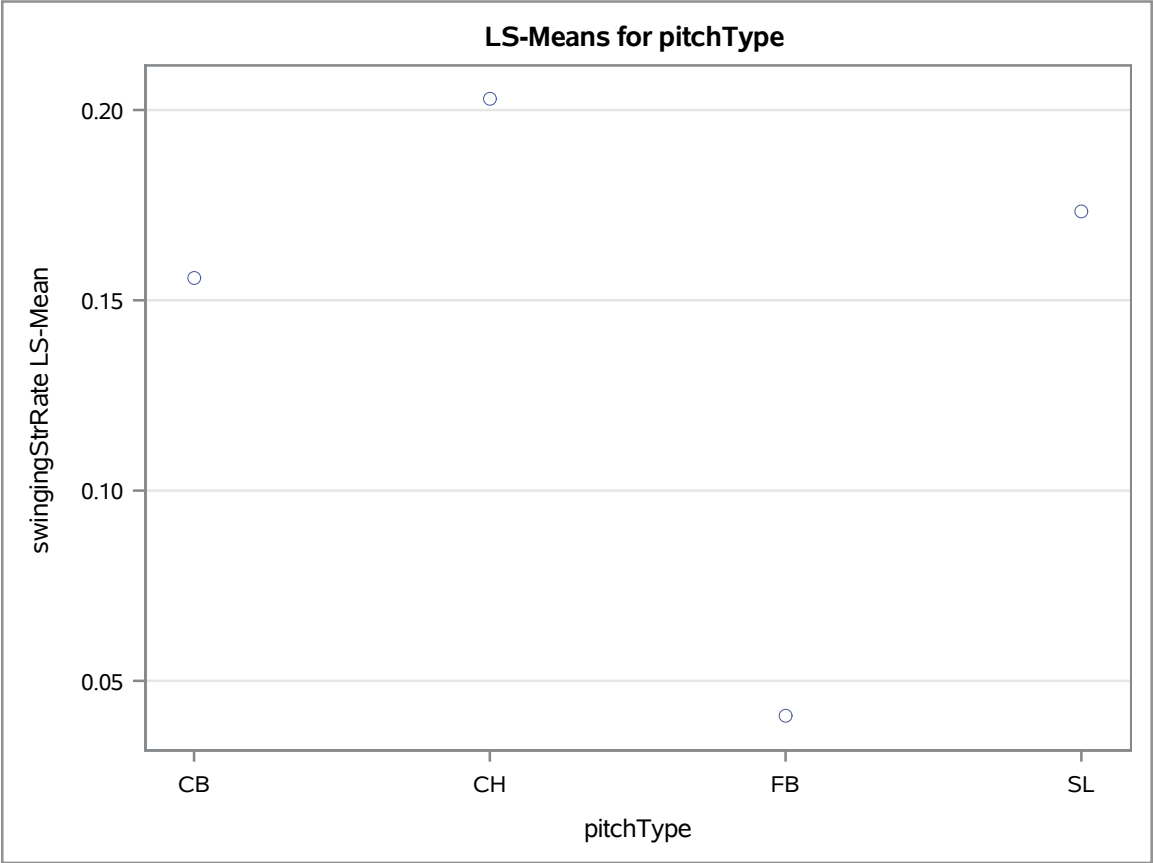
Least Squares Means for effect pitchType Pr >  t  for H0: LSMean(i)=LSMean(j) Dependent Variable: swingingStrRate				
i/j	1	2	3	4
1		0.9527	0.4835	0.9992
2	0.9527		0.1935	0.9957
3	0.4835	0.1935		0.7032
4	0.9992	0.9957	0.7032	

pitchType	swingingStrRate LSMEAN	95% Confidence Limits	
CB	0.155782	0.021547	0.290017
CH	0.202986	0.069219	0.336754
FB	0.040789	-0.050856	0.132434
SL	0.173475	-0.064337	0.411287

Least Squares Means for Effect pitchType				
i	j	Difference Between Means	Simultaneous 95% Confidence Limits for LSMean(i)-LSMean(j)	
1	2	-0.047205	-0.302737	0.208328
1	3	0.114993	-0.108389	0.338374
1	4	-0.017694	-0.400527	0.365140
2	3	0.162197	-0.056997	0.381391

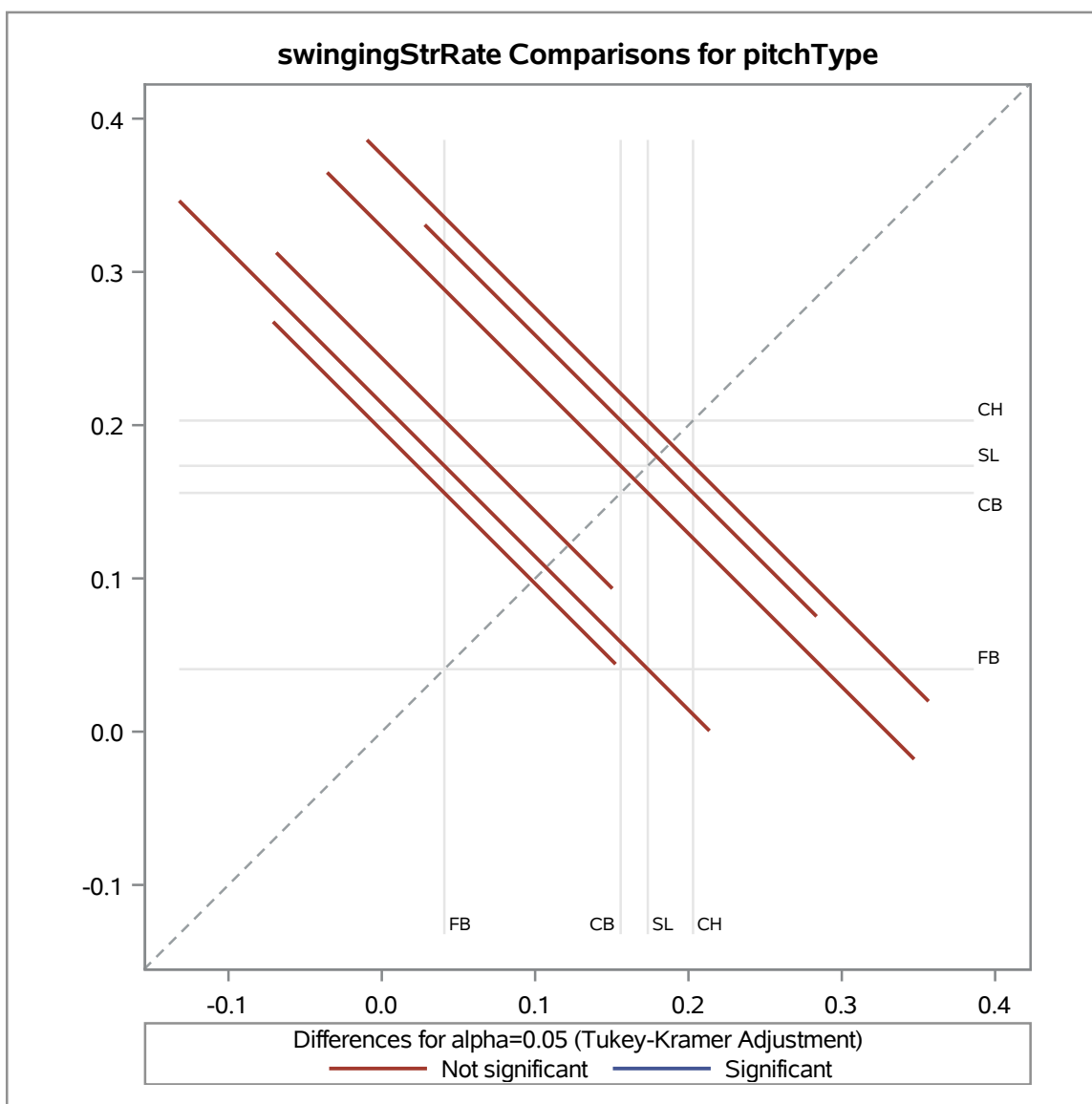
Least Squares Means  
Adjustment for Multiple Comparisons: Tukey-Kramer

Least Squares Means for Effect pitchType				
i	j	Difference Between Means	Simultaneous 95% Confidence Limits for LSMean(i)-LSMean(j)	
2	4	0.029511	-0.336765	0.395787
3	4	-0.132686	-0.478542	0.213169





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

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Pitch Location	Total Pitches	Total Swings	Total Misses	Swinging Strike Rate
1	5	4	1	20.00%
2	3	3	0	0.00%
3	3	2	0	0.00%
4	8	3	0	0.00%
5	6	5	0	0.00%
6	8	6	2	25.00%
7	3	2	0	0.00%
8	7	4	1	14.29%
9	4	2	1	25.00%
10	3	0	0	0.00%
11	8	2	0	0.00%
12	14	1	1	7.14%
13	12	3	3	25.00%

## Swing and Miss Data by Pitch Type

Pitch Type	Total Pitches	Total Swings	Total Misses	Swinging Strike Rate
CB	19	9	4	21.05%
CH	17	10	5	29.41%
FB	42	14	0	0.00%
SL	6	4	0	0.00%

# Regression Analysis of Velocity by Pitch Type

\*Data available for home games only\*

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Dependent Variable: velocity

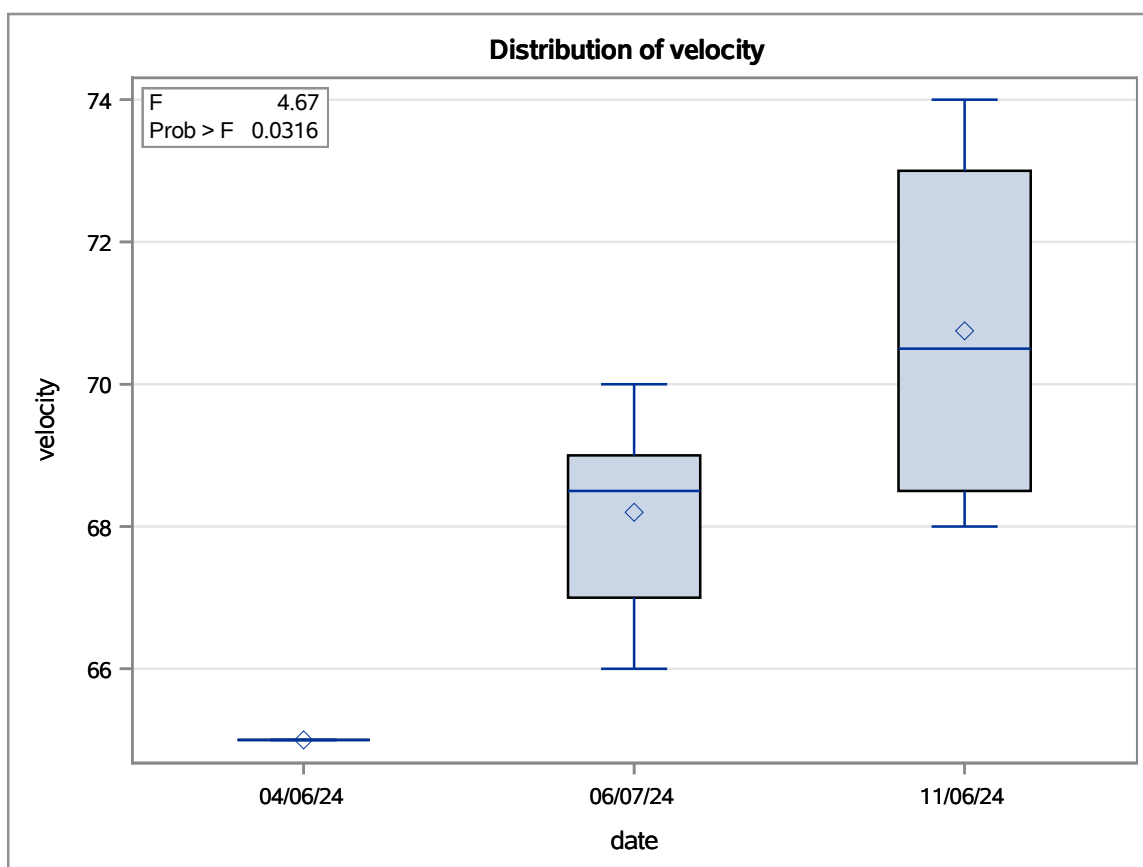
pitchType=CB

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	32.98333333	16.49166667	4.67	0.0316
Error	12	42.35000000	3.52916667		
Corrected Total	14	75.33333333			

R-Square	Coeff Var	Root MSE	velocity Mean
0.437832	2.735836	1.878608	68.66667

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	2	32.98333333	16.49166667	4.67	0.0316

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	2	32.98333333	16.49166667	4.67	0.0316

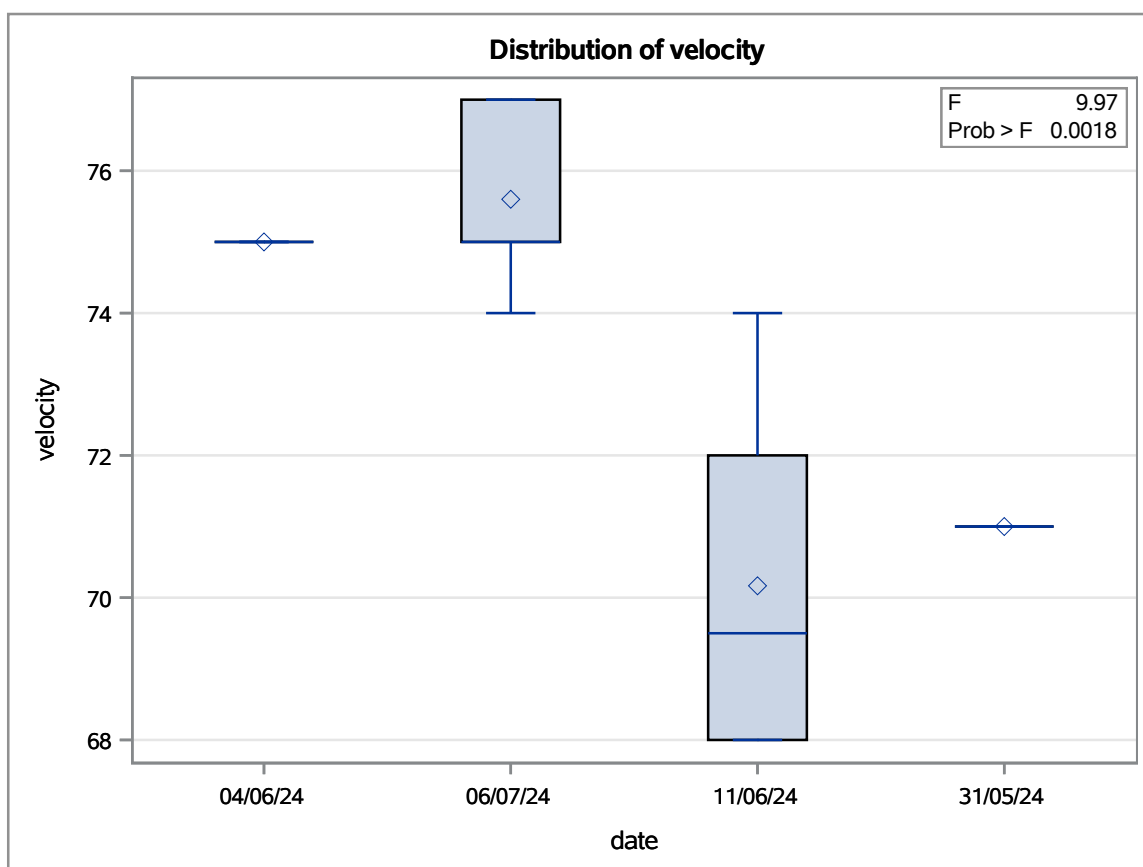


Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	97.9666667	32.6555556	9.97	0.0018
Error	11	36.0333333	3.2757576		
Corrected Total	14	134.0000000			

R-Square	Coeff Var	Root MSE	velocity Mean
0.731095	2.479322	1.809905	73.00000

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	3	97.96666667	32.65555556	9.97	0.0018

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	3	97.96666667	32.65555556	9.97	0.0018



# Regression Analysis of Velocity by Pitch Type

14

\*Data available for home games only\*

Dependent Variable: velocity

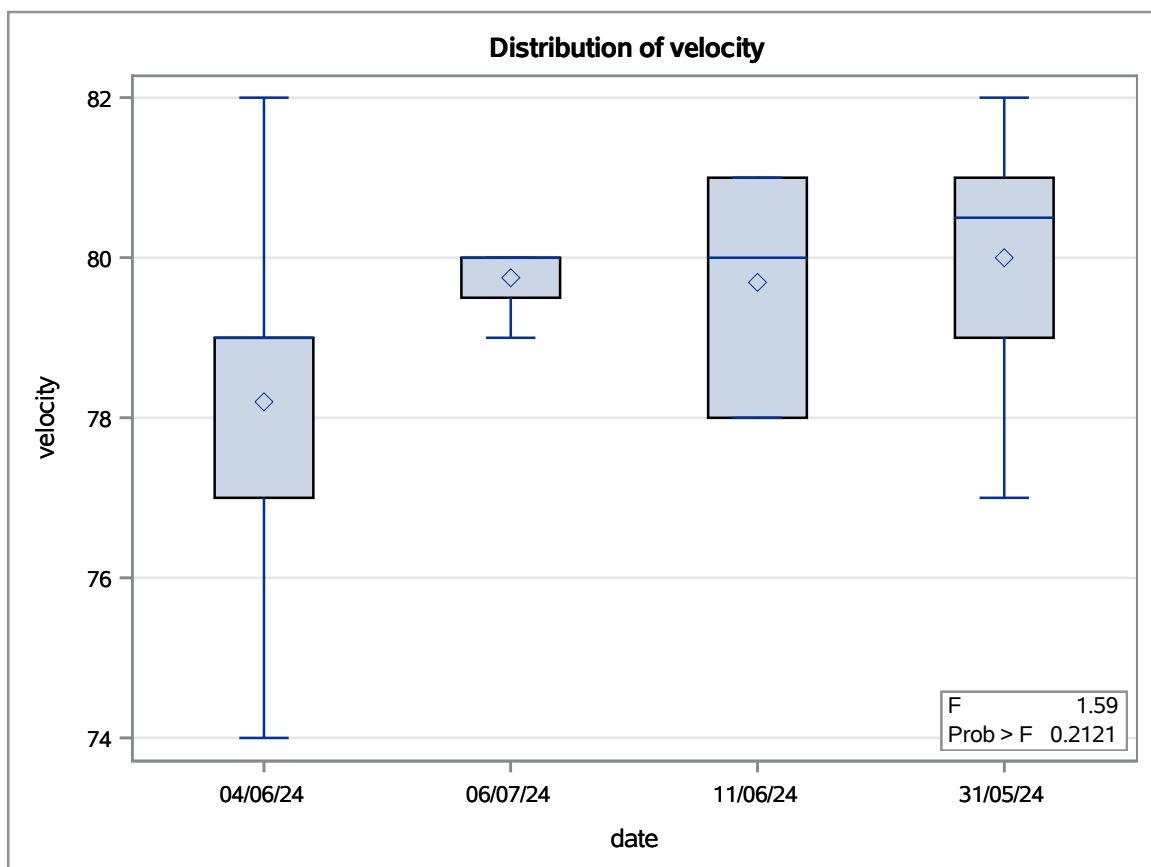
pitchType=FB

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	12.23632479	4.07877493	1.59	0.2121
Error	32	82.31923077	2.57247596		
Corrected Total	35	94.55555556			

R-Square	Coeff Var	Root MSE	velocity Mean
0.129409	2.014661	1.603894	79.61111

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	3	12.23632479	4.07877493	1.59	0.2121

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	3	12.23632479	4.07877493	1.59	0.2121



\*Data available for home games only\*

Dependent Variable: velocity

pitchType=SL

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	20.50000000	10.25000000	20.50	0.1543
Error	1	0.50000000	0.50000000		
Corrected Total	3	21.00000000			

R-Square	Coeff Var	Root MSE	velocity Mean
0.976190	1.002988	0.707107	70.50000

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	2	20.50000000	10.25000000	20.50	0.1543

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	2	20.50000000	10.25000000	20.50	0.1543

