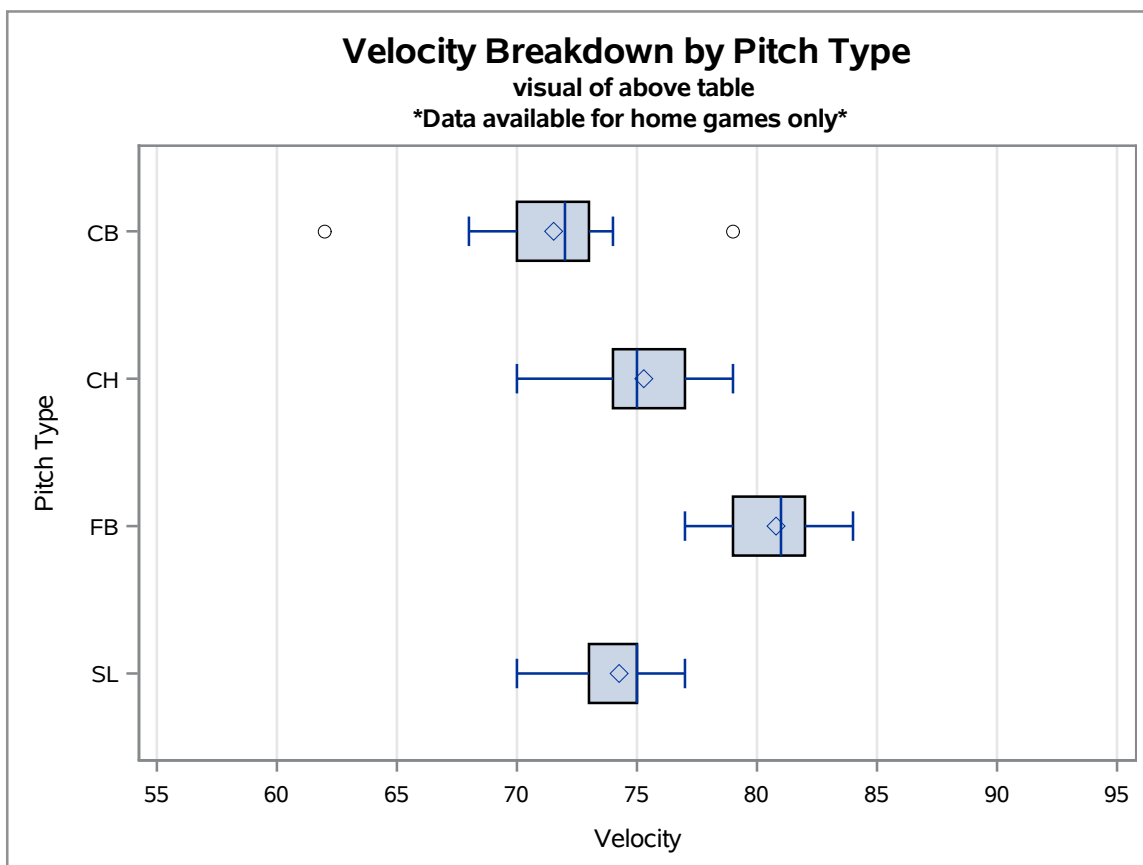


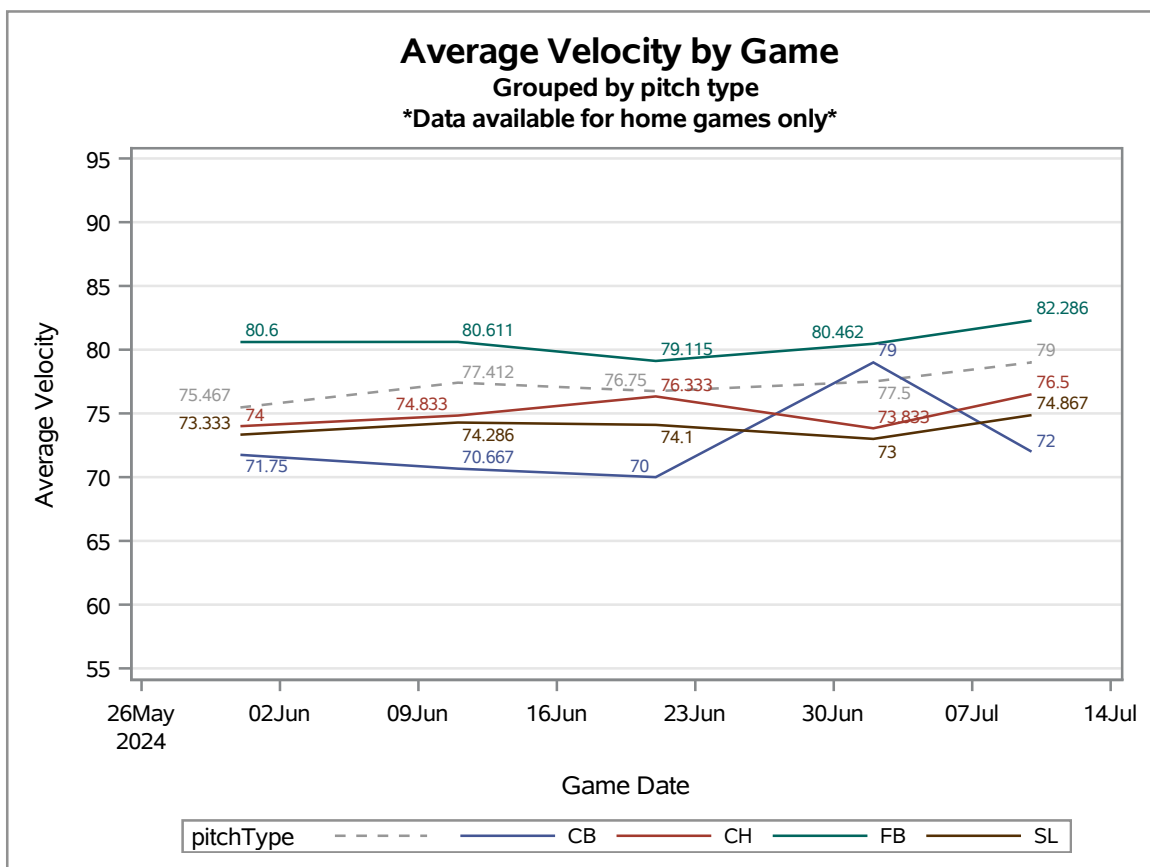
# Velocity Breakdown by Pitch Type

\*Data available for home games only\*

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Analysis Variable : velocity					
pitchType	N Obs	N	Minimum	Mean	Maximum
CB	17	17	62.0	71.5	79.0
CH	28	28	70.0	75.3	79.0
FB	97	97	77.0	80.8	84.0
SL	39	39	70.0	74.3	77.0





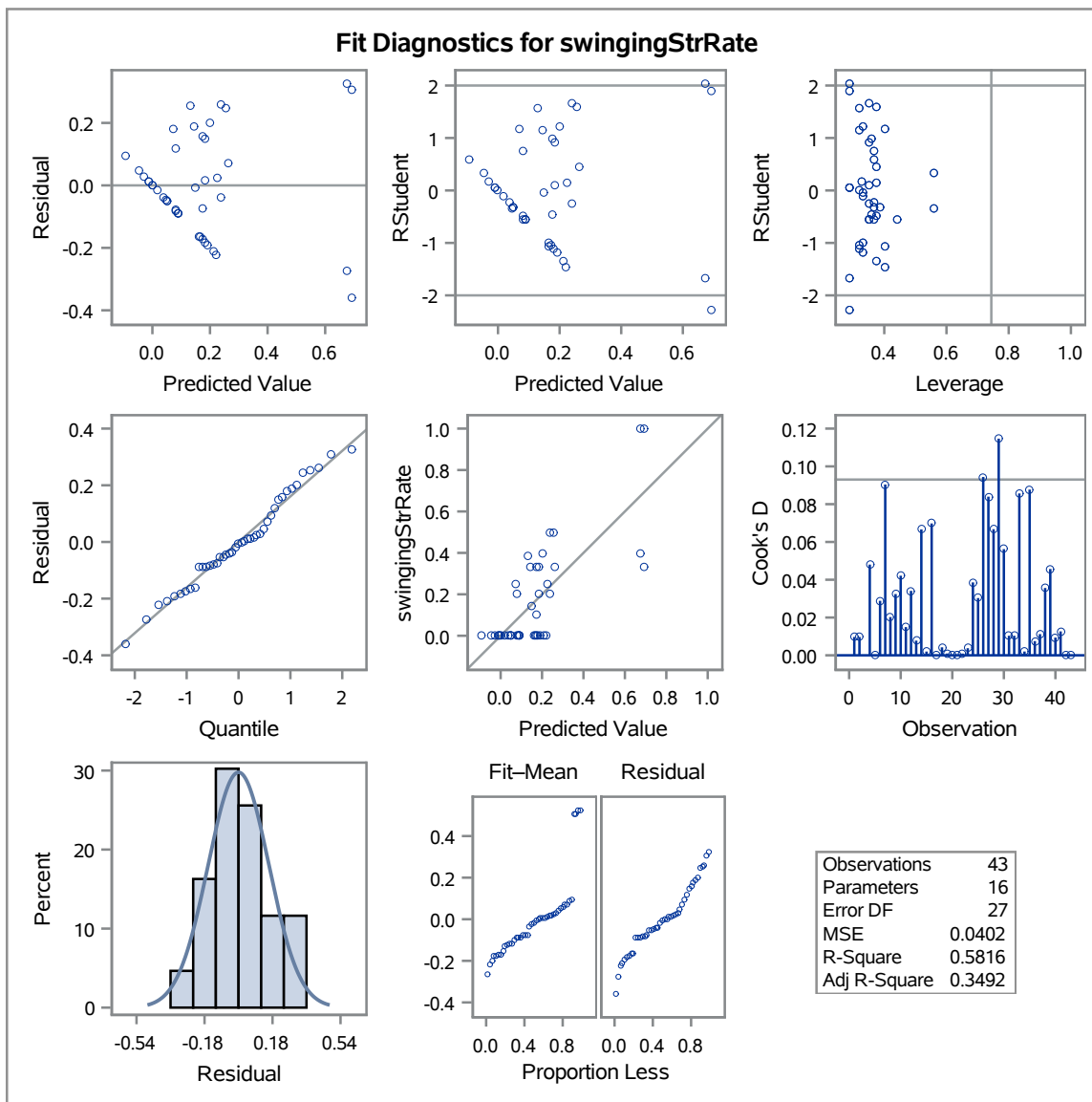
Dependent Variable: swingingStrRate

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
<b>Model</b>	15	1.50950832	0.10063389	2.50	0.0184
<b>Error</b>	27	1.08576489	0.04021351		
<b>Corrected Total</b>	42	2.59527321			

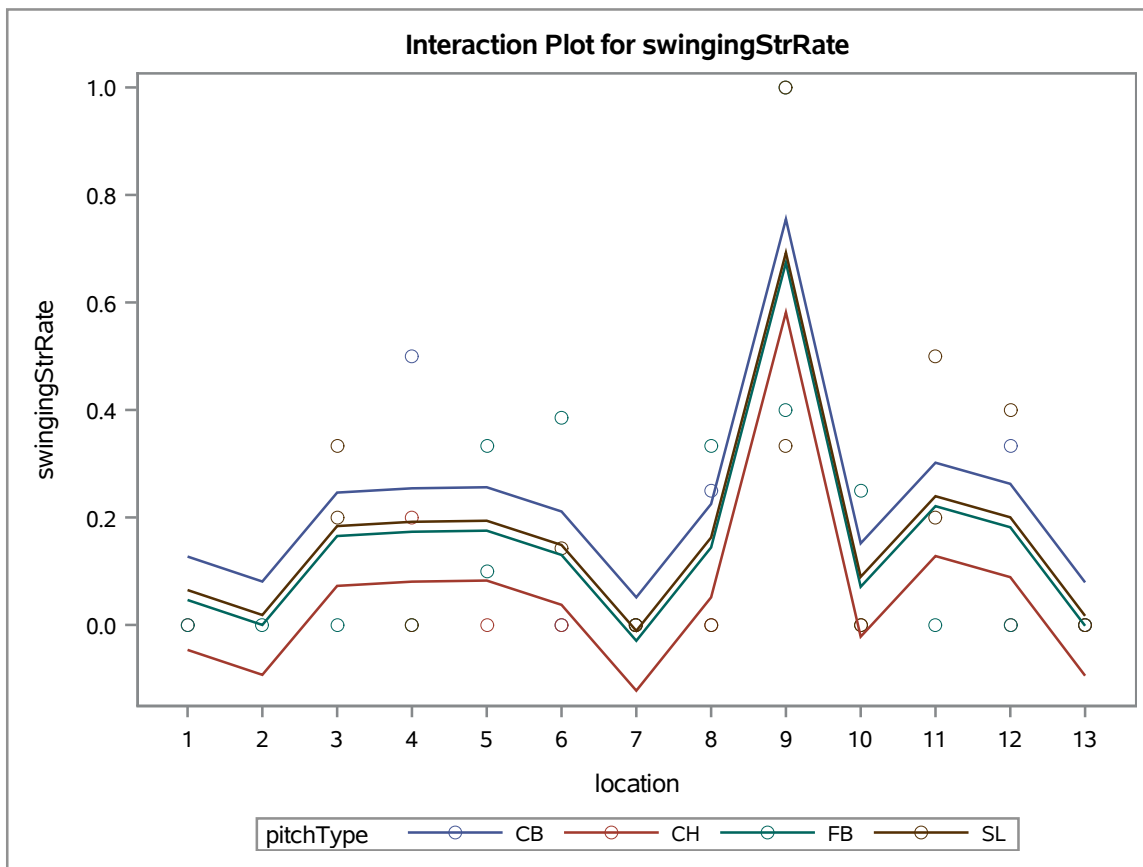
R-Square	Coeff Var	Root MSE	swingingStrRate Mean
0.581638	119.8604	0.200533	0.167306

Source	DF	Type III SS	Mean Square	F Value	Pr > F
<b>location</b>	12	1.34405706	0.11200475	2.79	0.0132
<b>pitchType</b>	3	0.09220527	0.03073509	0.76	0.5240

Dependent Variable: swingingStrRate



Dependent Variable: swingingStrRate



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

pitchType	swingingStrRate LSMEAN	LSMEAN Number
CB	0.23094870	1
CH	0.05732243	2
FB	0.15013941	3
SL	0.16863341	4

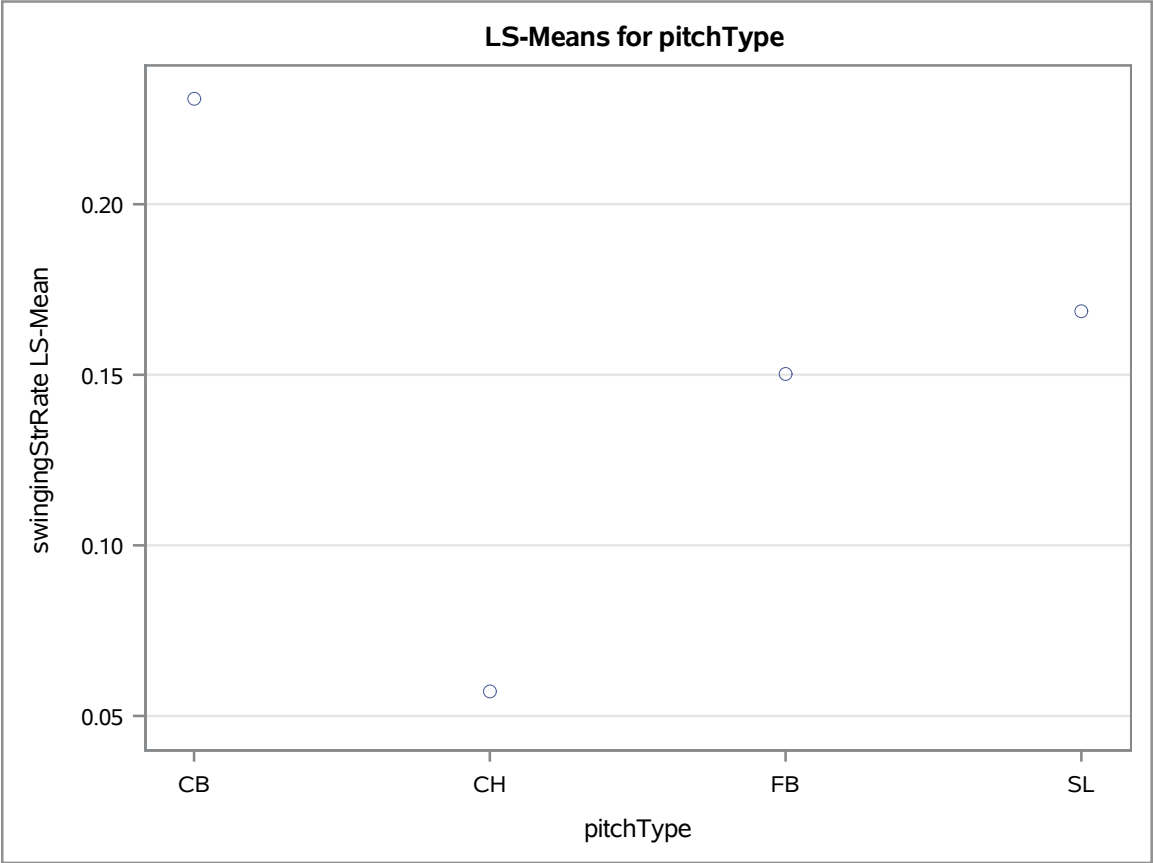
Least Squares Means for effect pitchType Pr >  t  for H0: LSMean(i)=LSMean(j) Dependent Variable: swingingStrRate				
i/j	1	2	3	4
1		0.4581	0.8693	0.9347
2	0.4581		0.7826	0.7213
3	0.8693	0.7826		0.9954
4	0.9347	0.7213	0.9954	

pitchType	swingingStrRate LSMEAN	95% Confidence Limits	
CB	0.230949	0.045563	0.416335
CH	0.057322	-0.114066	0.228711
FB	0.150139	0.042021	0.258258
SL	0.168633	0.047793	0.289474

Least Squares Means for Effect pitchType				
i	j	Difference Between Means	Simultaneous 95% Confidence Limits for LSMean(i)-LSMean(j)	
1	2	0.173626	-0.145614	0.492867
1	3	0.080809	-0.208142	0.369761
1	4	0.062315	-0.227541	0.352171
2	3	-0.092817	-0.362423	0.176789

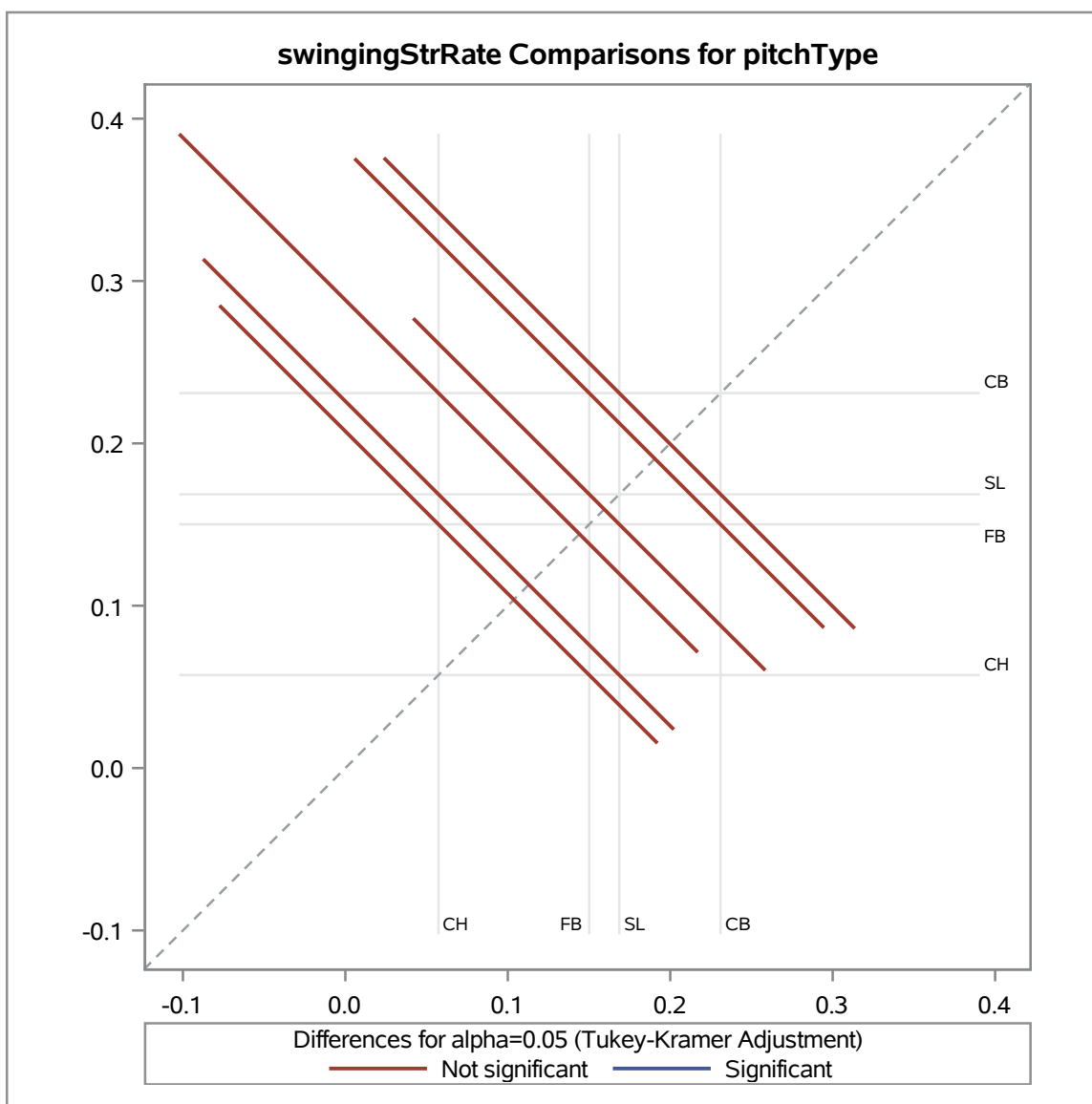
Least Squares Means  
Adjustment for Multiple Comparisons: Tukey-Kramer

Least Squares Means for Effect pitchType				
i	j	Difference Between Means	Simultaneous 95% Confidence Limits for LSMean(i)-LSMean(j)	
2	4	-0.111311	-0.401085	0.178463
3	4	-0.018494	-0.235249	0.198261





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

10

Pitch Location	Total Pitches	Total Swings	Total Misses	Swinging Strike Rate
1	7	7	0	0.00%
2	9	7	0	0.00%
3	9	6	1	11.11%
4	19	11	2	10.53%
5	14	11	1	7.14%
6	25	11	6	24.00%
7	13	6	0	0.00%
8	17	15	4	23.53%
9	14	6	3	21.43%
10	13	3	1	7.69%
11	17	4	2	11.76%
12	31	8	3	9.68%
13	36	0	0	0.00%

## Swing and Miss Data by Pitch Type

Pitch Type	Total Pitches	Total Swings	Total Misses	Swinging Strike Rate
CB	21	9	3	14.29%
CH	39	13	1	2.56%
FB	116	56	11	9.48%
SL	48	17	8	16.67%

\*Data available for home games only\*

Dependent Variable: velocity

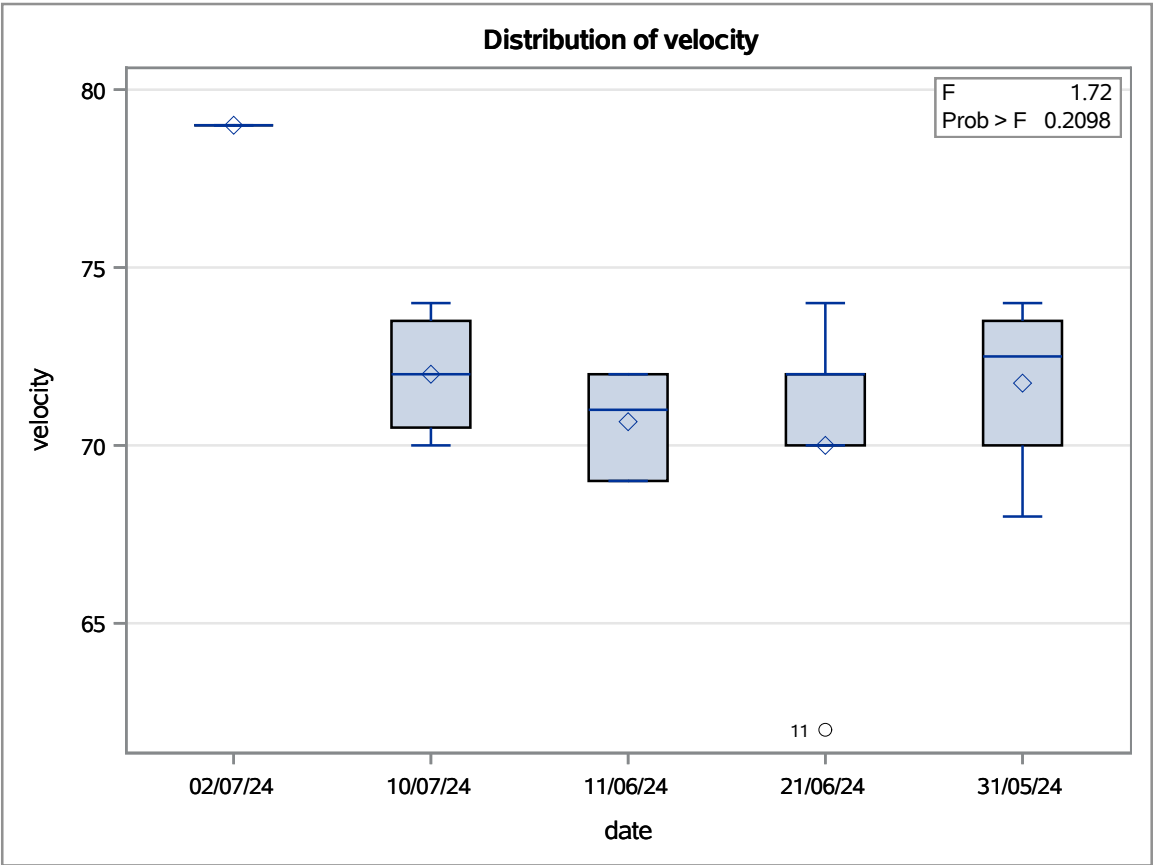
pitchType=CB

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	70.8186275	17.7046569	1.72	0.2098
Error	12	123.4166667	10.2847222		
Corrected Total	16	194.2352941			

R-Square	Coeff Var	Root MSE	velocity Mean
0.364602	4.483443	3.206980	71.52941

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	4	70.81862745	17.70465686	1.72	0.2098

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	4	70.81862745	17.70465686	1.72	0.2098



# Regression Analysis of Velocity by Pitch Type

\*Data available for home games only\*

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Dependent Variable: velocity

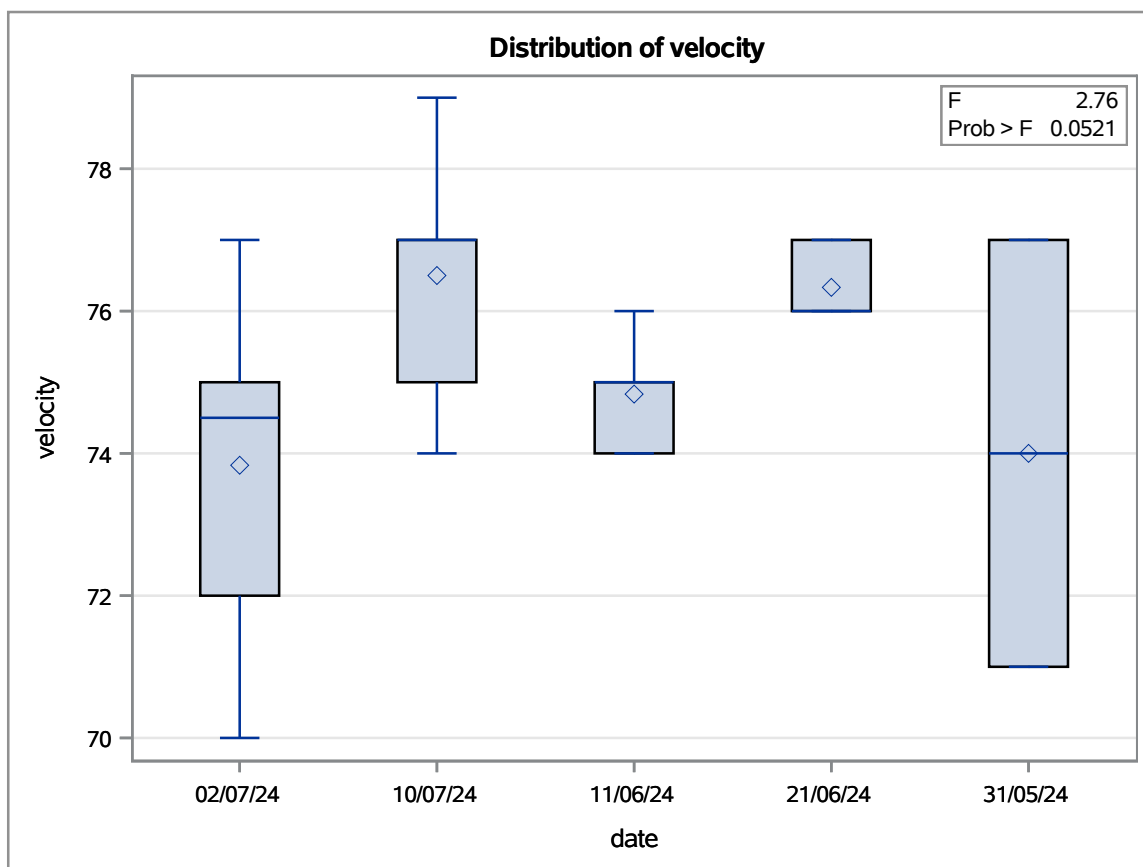
pitchType=CH

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	36.8809524	9.2202381	2.76	0.0521
Error	23	76.8333333	3.3405797		
Corrected Total	27	113.7142857			

R-Square	Coeff Var	Root MSE	velocity Mean
0.324330	2.427719	1.827725	75.28571

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	4	36.88095238	9.22023810	2.76	0.0521

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	4	36.88095238	9.22023810	2.76	0.0521



# Regression Analysis of Velocity by Pitch Type

\*Data available for home games only\*

14

Dependent Variable: velocity

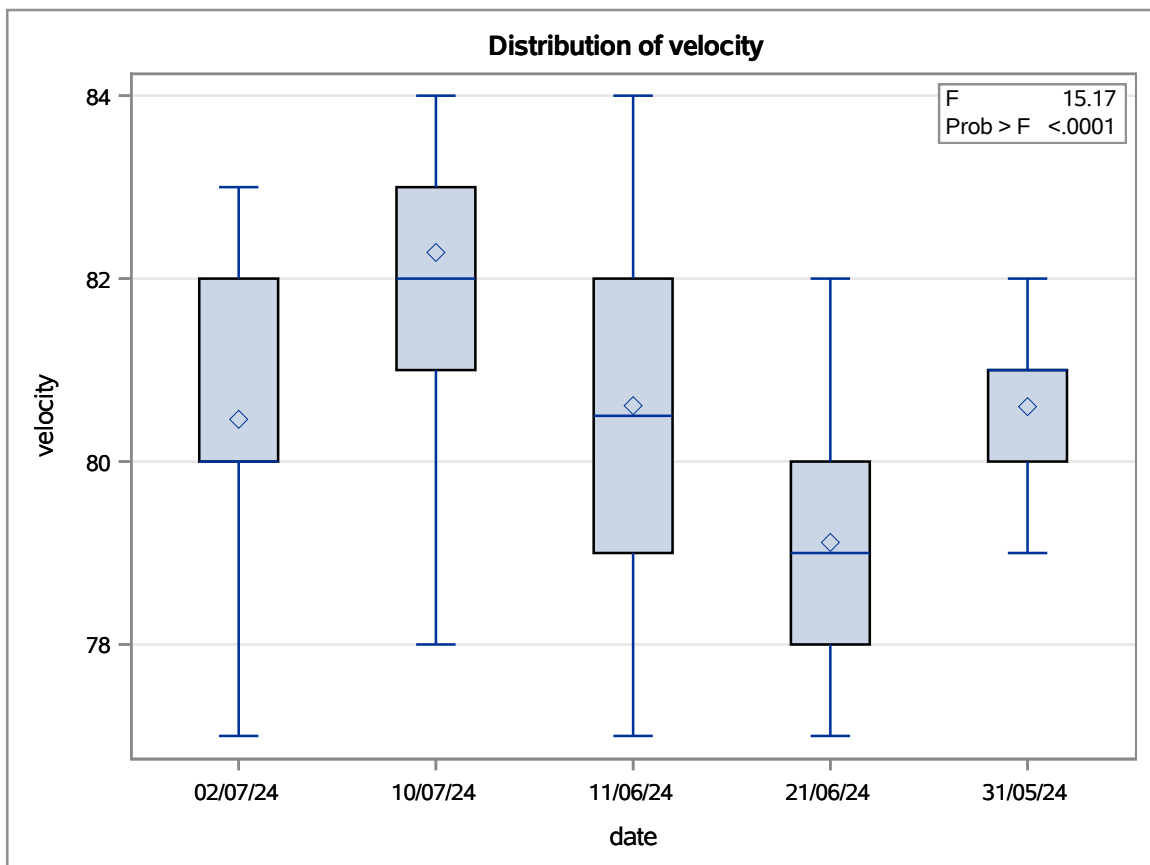
pitchType=FB

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	153.3710384	38.3427596	15.17	<.0001
Error	92	232.5052503	2.5272310		
Corrected Total	96	385.8762887			

R-Square	Coeff Var	Root MSE	velocity Mean
0.397462	1.967634	1.589727	80.79381

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	4	153.3710384	38.3427596	15.17	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	4	153.3710384	38.3427596	15.17	<.0001



# Regression Analysis of Velocity by Pitch Type

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\*Data available for home games only\*

Dependent Variable: velocity

pitchType=SL

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	14.7073260	3.6768315	1.13	0.3592
Error	34	110.7285714	3.2567227		
Corrected Total	38	125.4358974			

R-Square	Coeff Var	Root MSE	velocity Mean
0.117250	2.430281	1.804639	74.25641

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	4	14.70732601	3.67683150	1.13	0.3592

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	4	14.70732601	3.67683150	1.13	0.3592

