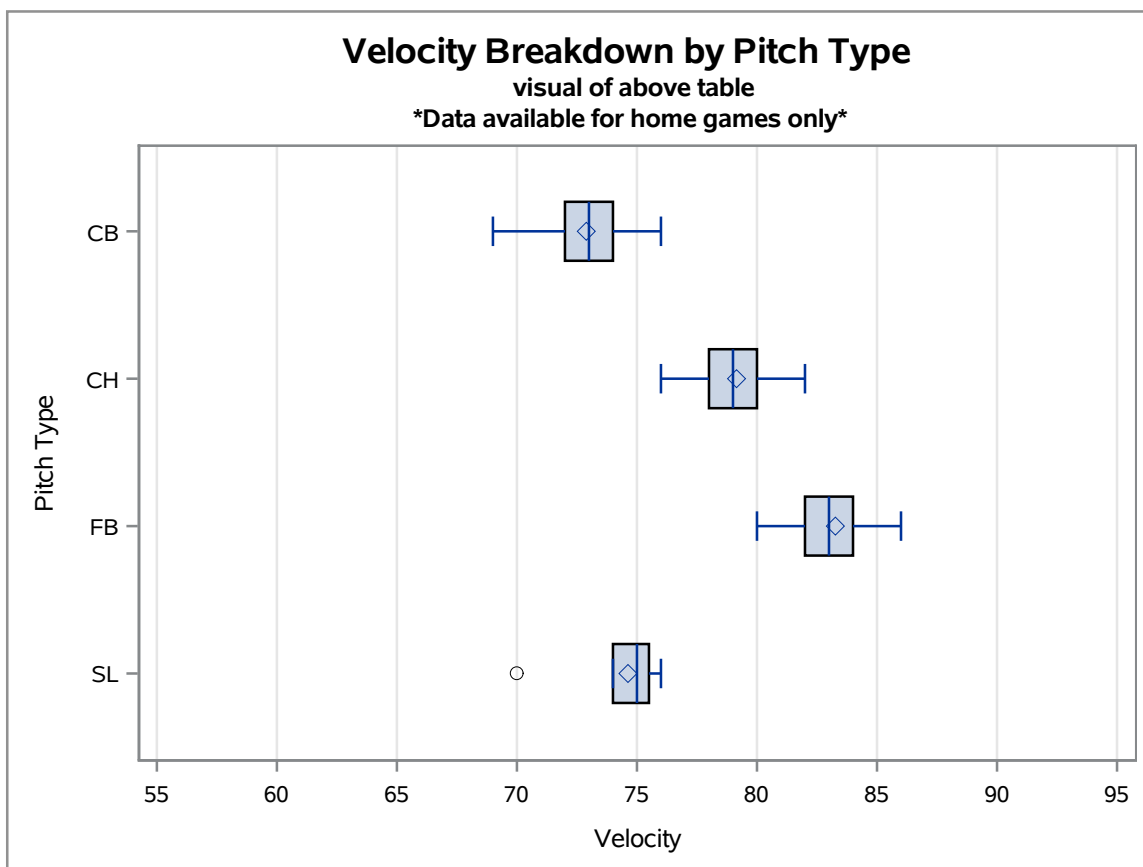


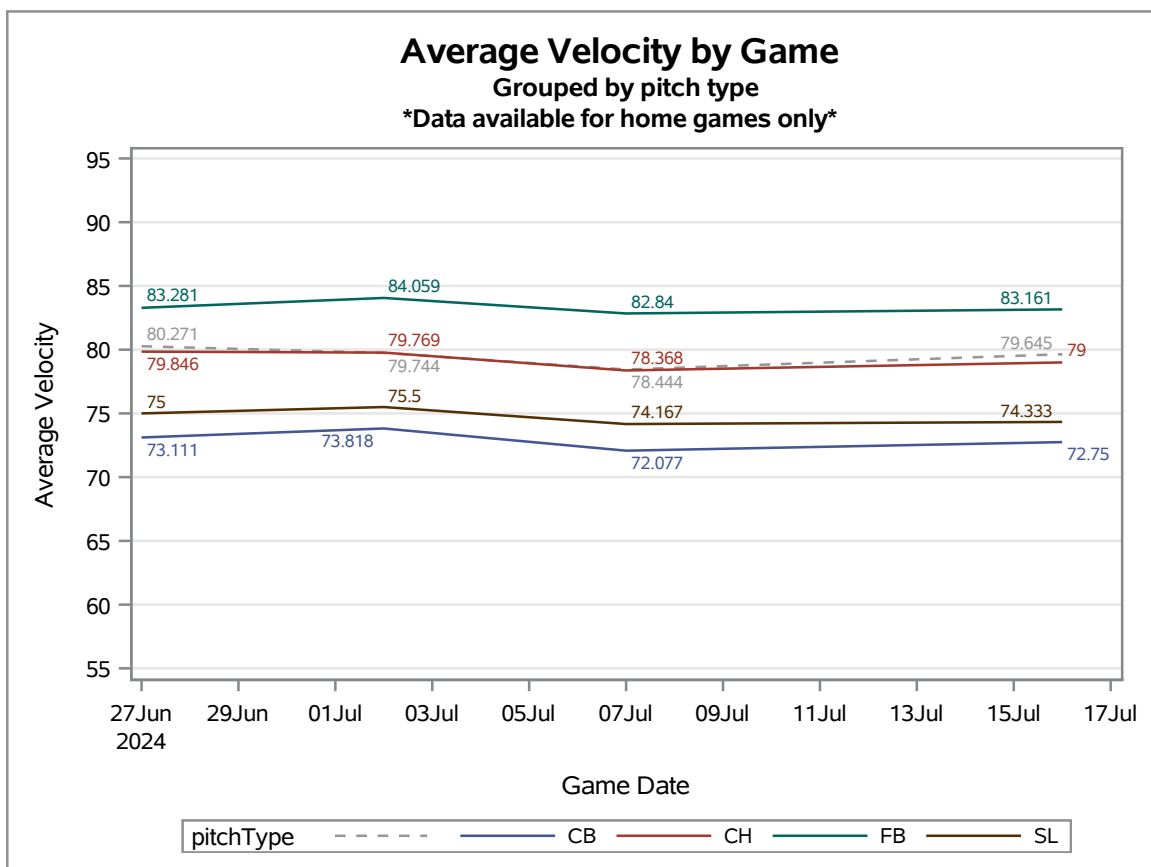
Velocity Breakdown by Pitch Type

Data available for home games only

1

Analysis Variable : velocity					
pitchType	N Obs	N	Minimum	Mean	Maximum
CB	45	45	69.0	72.9	76.0
CH	61	61	76.0	79.1	82.0
FB	105	105	80.0	83.3	86.0
SL	16	16	70.0	74.6	76.0





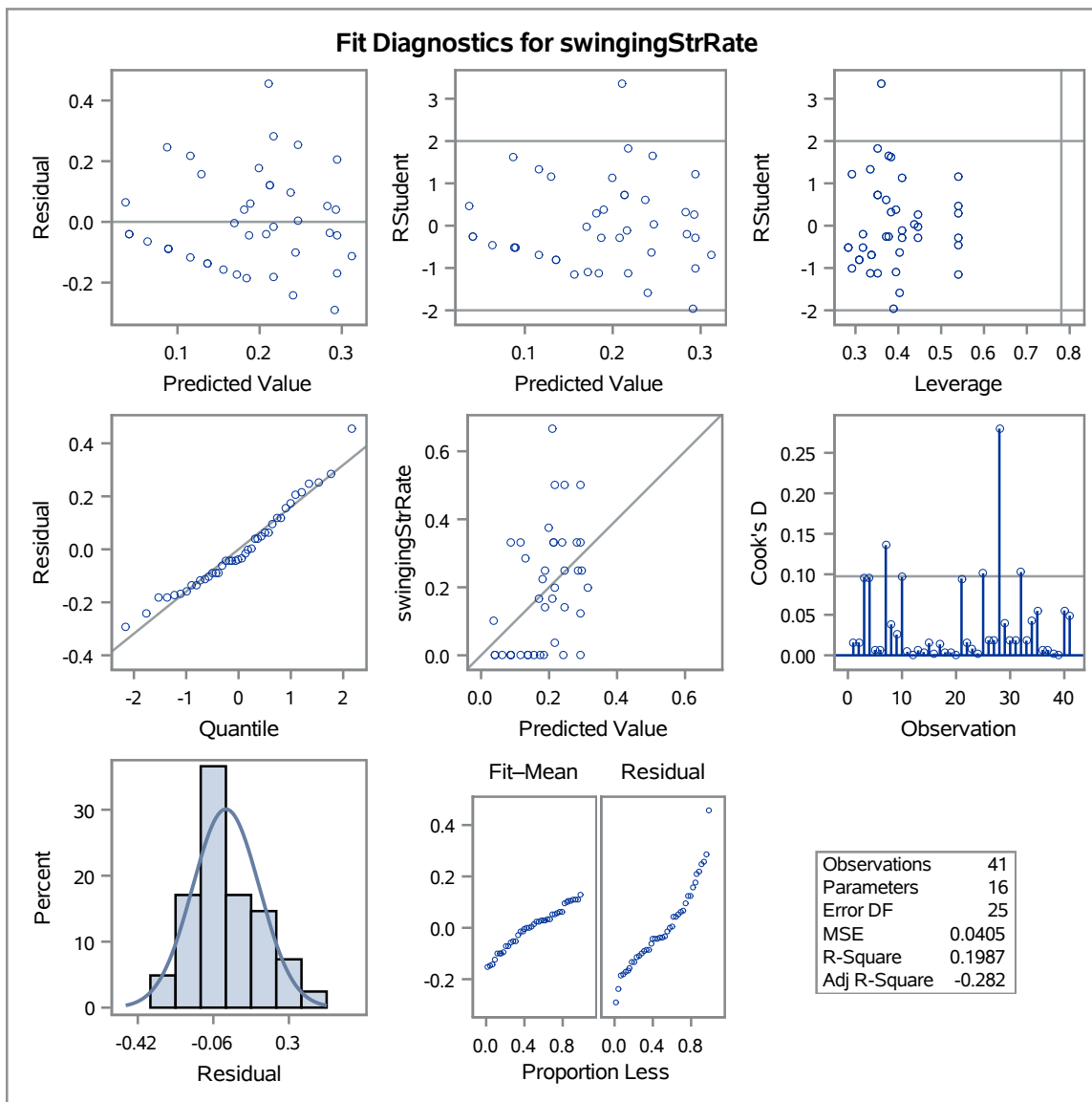
Dependent Variable: swingingStrRate

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	15	0.25141558	0.01676104	0.41	0.9607
Error	25	1.01359875	0.04054395		
Corrected Total	40	1.26501433			

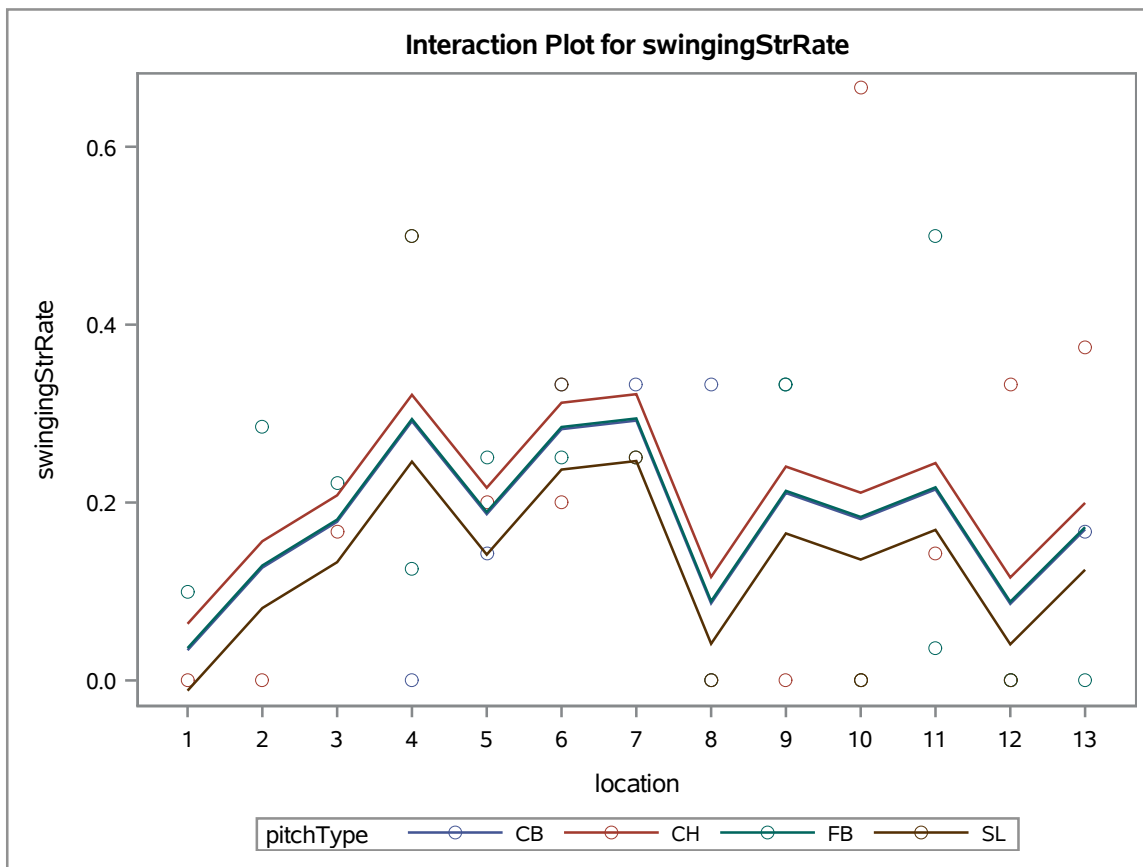
R-Square	Coeff Var	Root MSE	swingingStrRate Mean
0.198745	107.7371	0.201355	0.186895

Source	DF	Type III SS	Mean Square	F Value	Pr > F
location	12	0.23820889	0.01985074	0.49	0.9017
pitchType	3	0.01921678	0.00640559	0.16	0.9235

Dependent Variable: swingingStrRate



Dependent Variable: swingingStrRate



Least Squares Means
Adjustment for Multiple Comparisons: Tukey-Kramer

pitchType	swingingStrRate LSMEAN	LSMEAN Number
CB	0.18012175	1
CH	0.20980245	2
FB	0.18252276	3
SL	0.13465935	4

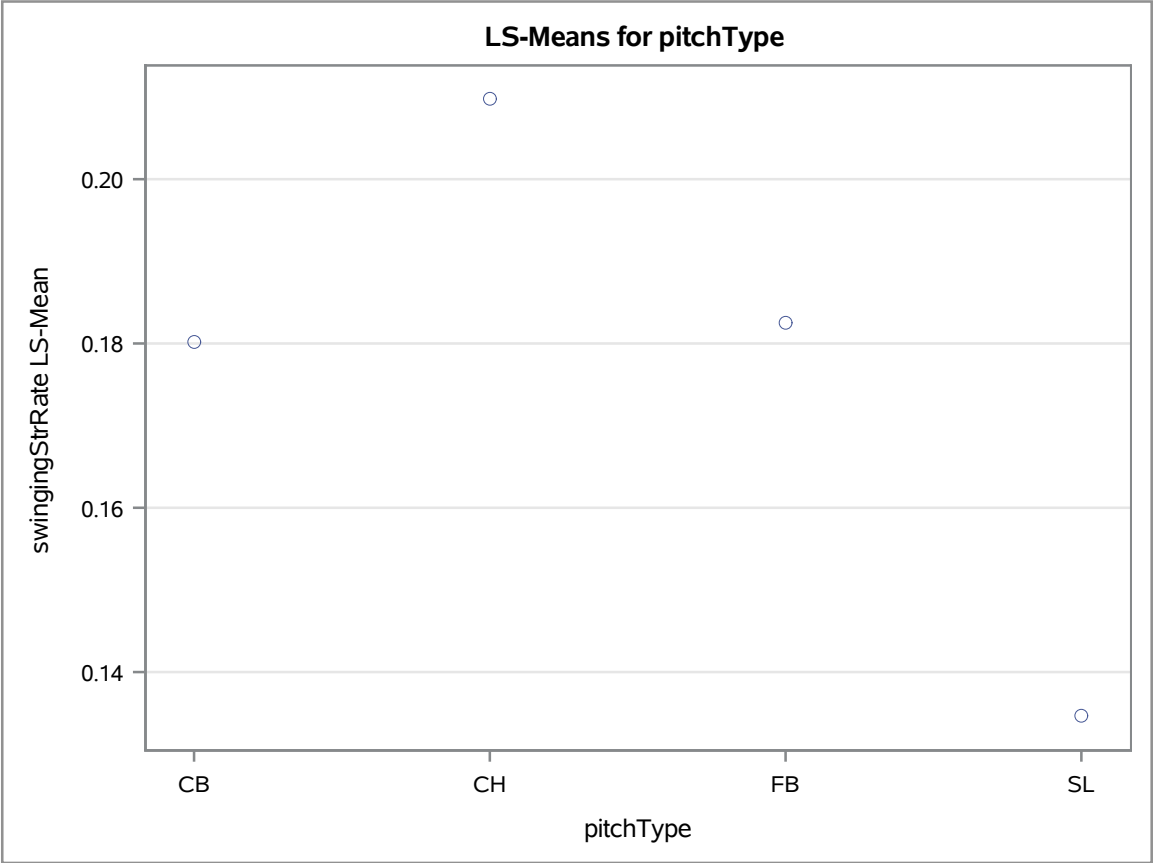
Least Squares Means for effect pitchType Pr > t for H0: LSMean(i)=LSMean(j) Dependent Variable: swingingStrRate				
i/j	1	2	3	4
1		0.9935	1.0000	0.9816
2	0.9935		0.9861	0.9007
3	1.0000	0.9861		0.9633
4	0.9816	0.9007	0.9633	

pitchType	swingingStrRate LSMEAN	95% Confidence Limits	
CB	0.180122	-0.007147	0.367390
CH	0.209802	0.081477	0.338128
FB	0.182523	0.079272	0.285773
SL	0.134659	-0.043980	0.313298

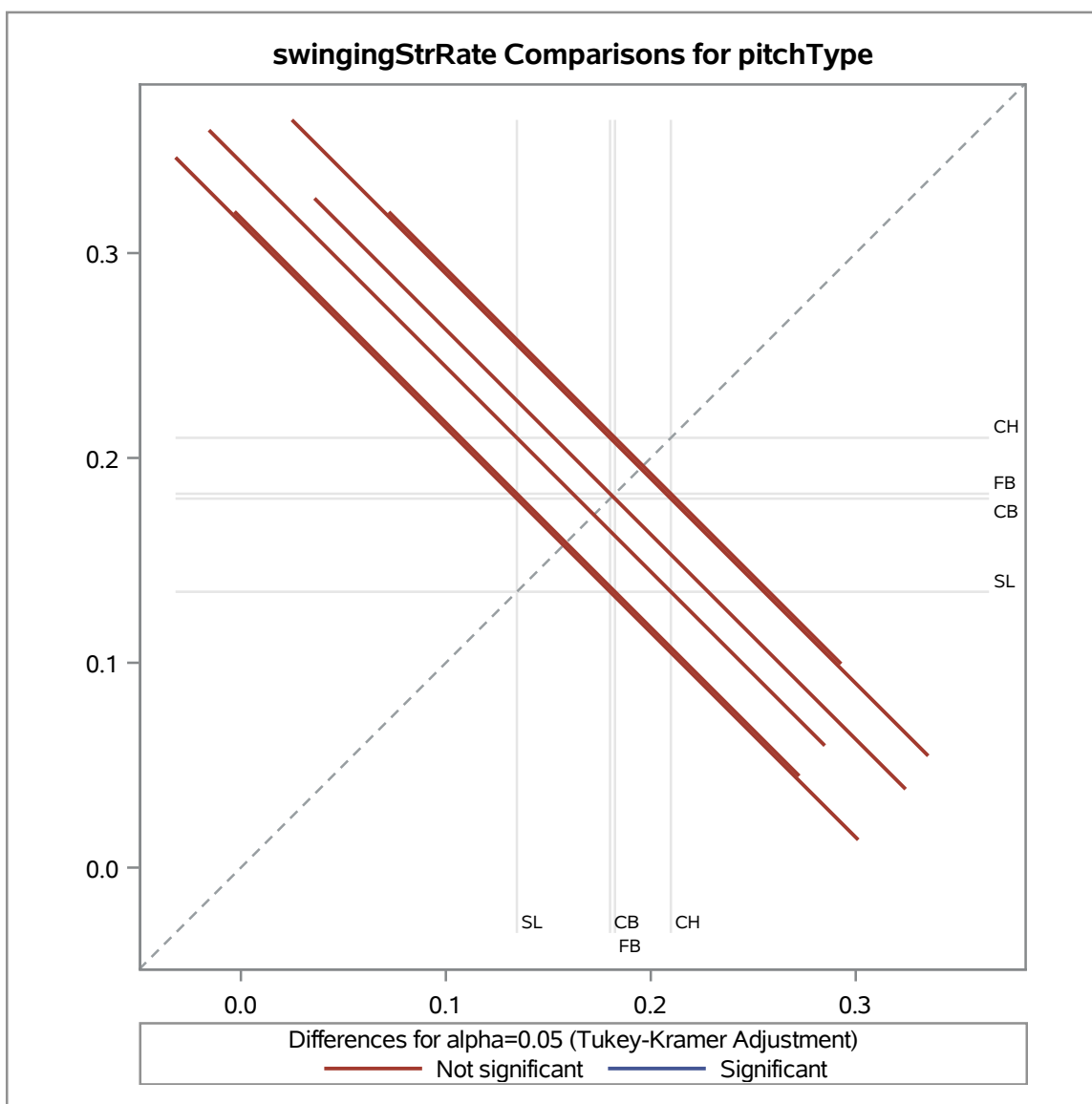
Least Squares Means for Effect pitchType				
i	j	Difference Between Means	Simultaneous 95% Confidence Limits for LSMean(i)-LSMean(j)	
1	2	-0.029681	-0.340146	0.280784
1	3	-0.002401	-0.290811	0.286009
1	4	0.045462	-0.287665	0.378590
2	3	0.027280	-0.193364	0.247923

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	0.075143	-0.225328	0.375614
3	4	0.047863	-0.227664	0.323390



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
1	15	14	1	6.67%
2	14	13	2	14.29%
3	15	11	3	20.00%
4	16	11	1	6.25%
5	20	14	4	20.00%
6	19	13	5	26.32%
7	11	7	3	27.27%
8	12	12	1	8.33%
9	11	4	1	9.09%
10	14	5	2	14.29%
11	37	2	1	2.70%
12	20	3	1	5.00%
13	26	7	5	19.23%

Swing and Miss Data by Pitch Type

Pitch Type	Total Pitches	Total Swings	Total Misses	Swinging Strike Rate
CB	45	14	6	13.33%
CH	61	36	9	14.75%
FB	108	57	13	12.04%
SL	16	9	2	12.50%

Regression Analysis of Velocity by Pitch Type

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Data available for home games only

Dependent Variable: velocity

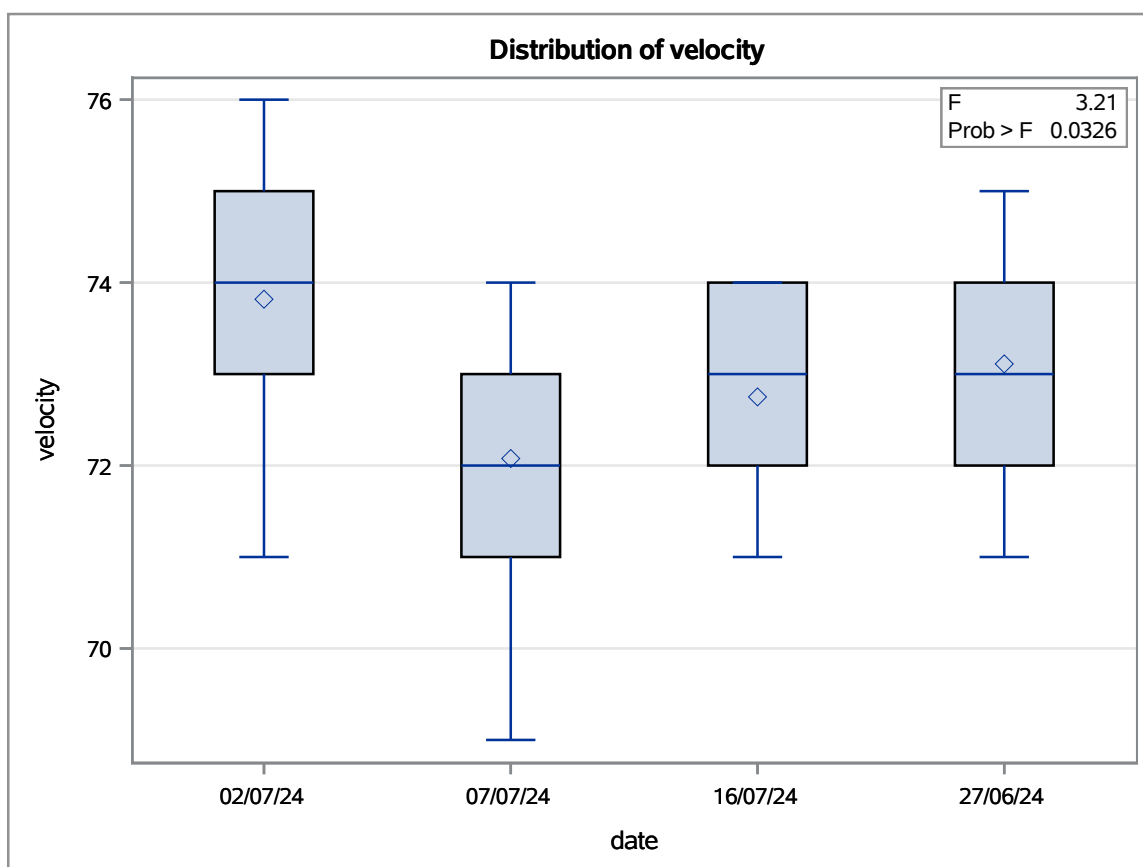
pitchType=CB

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	18.74611500	6.24870500	3.21	0.0326
Error	41	79.69832945	1.94386169		
Corrected Total	44	98.44444444			

R-Square	Coeff Var	Root MSE	velocity Mean
0.190423	1.912808	1.394224	72.88889

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	3	18.74611500	6.24870500	3.21	0.0326

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	3	18.74611500	6.24870500	3.21	0.0326



Regression Analysis of Velocity by Pitch Type

13

Data available for home games only

Dependent Variable: velocity

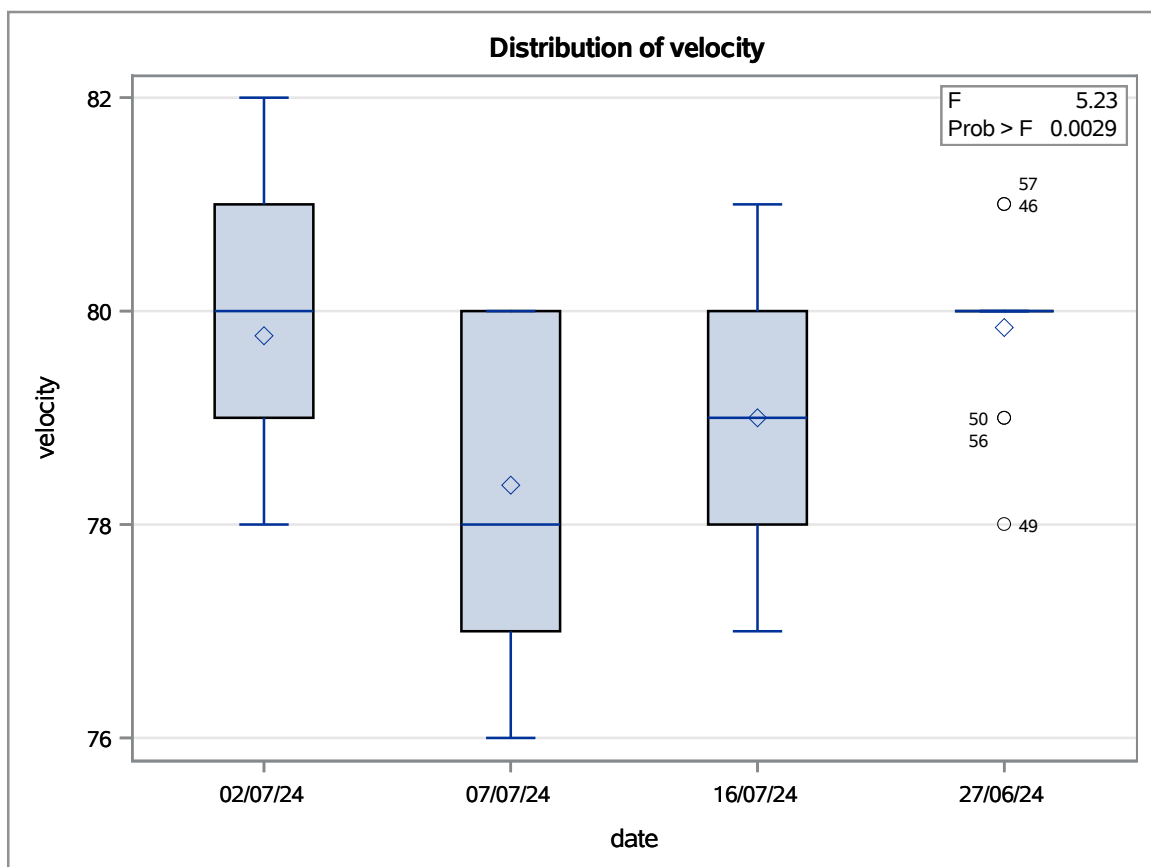
pitchType=CH

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	23.2510785	7.7503595	5.23	0.0029
Error	57	84.4210526	1.4810711		
Corrected Total	60	107.6721311			

R-Square	Coeff Var	Root MSE	velocity Mean
0.215943	1.537625	1.216993	79.14754

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	3	23.25107852	7.75035951	5.23	0.0029

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	3	23.25107852	7.75035951	5.23	0.0029



Regression Analysis of Velocity by Pitch Type

14

Data available for home games only

Dependent Variable: velocity

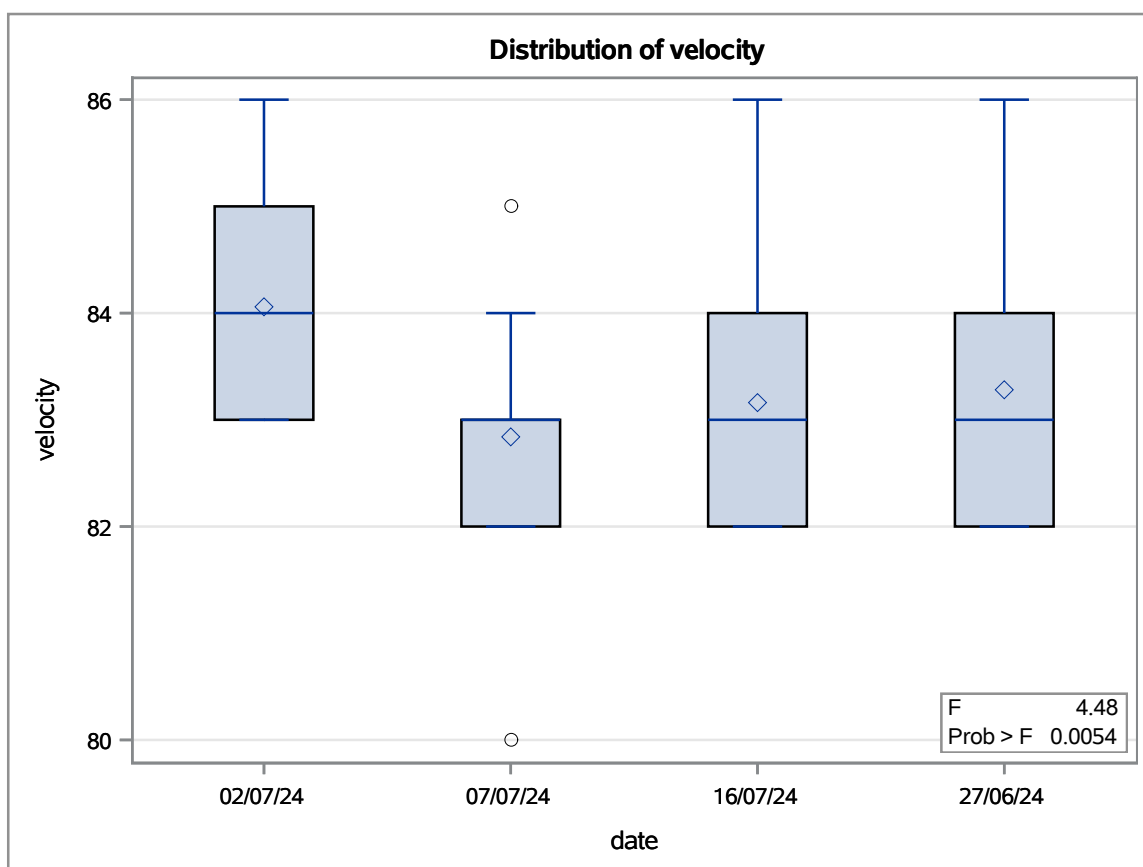
pitchType=FB

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	15.5698585	5.1899528	4.48	0.0054
Error	101	116.9634749	1.1580542		
Corrected Total	104	132.5333333			

R-Square	Coeff Var	Root MSE	velocity Mean
0.117479	1.292389	1.076129	83.26667

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	3	15.56985848	5.18995283	4.48	0.0054

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	3	15.56985848	5.18995283	4.48	0.0054



Data available for home games only

Dependent Variable: velocity

pitchType=SL

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	3.75000000	1.25000000	0.54	0.6666
Error	12	28.00000000	2.33333333		
Corrected Total	15	31.75000000			

R-Square	Coeff Var	Root MSE	velocity Mean
0.118110	2.046935	1.527525	74.62500

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	3	3.75000000	1.25000000	0.54	0.6666

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	3	3.75000000	1.25000000	0.54	0.6666

