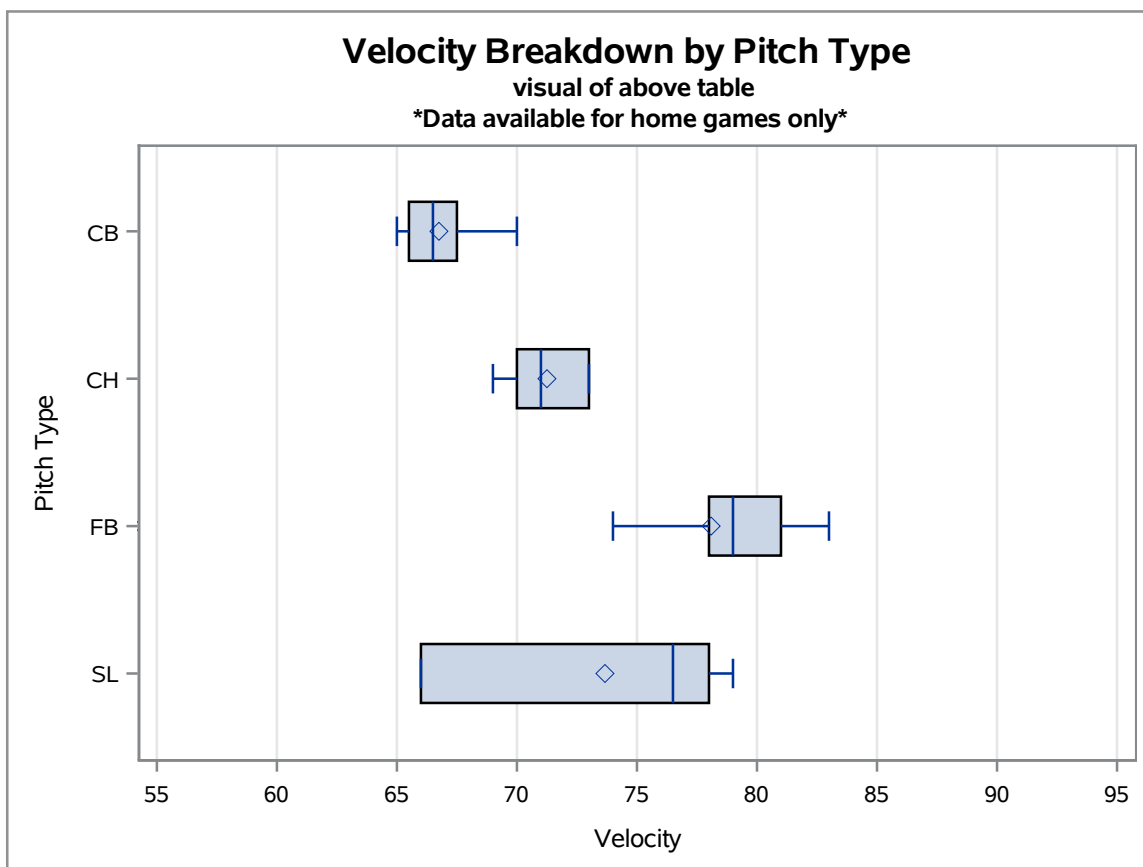


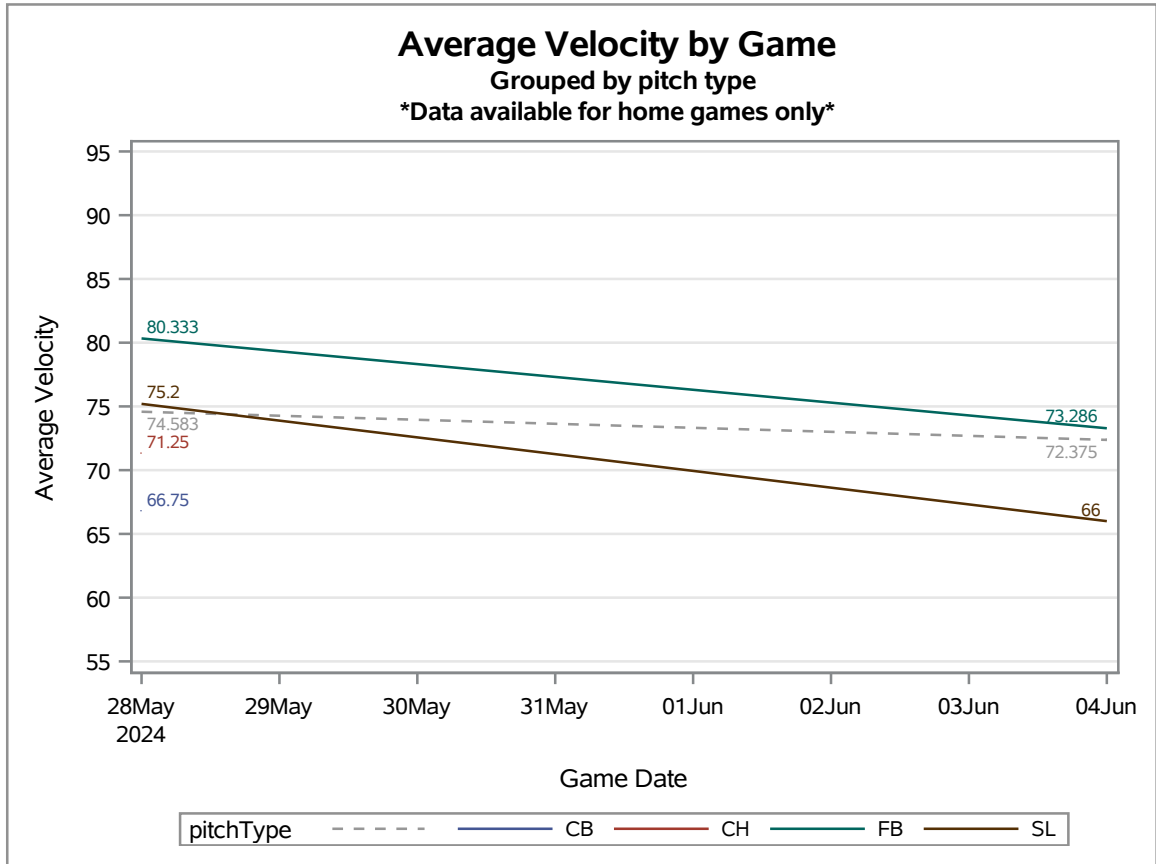
# Velocity Breakdown by Pitch Type

\*Data available for home games only\*

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Analysis Variable : velocity					
pitchType	N Obs	N	Minimum	Mean	Maximum
CB	8	8	65.0	66.8	70.0
CH	8	8	69.0	71.3	73.0
FB	22	22	54.0	78.1	83.0
SL	6	6	66.0	73.7	79.0





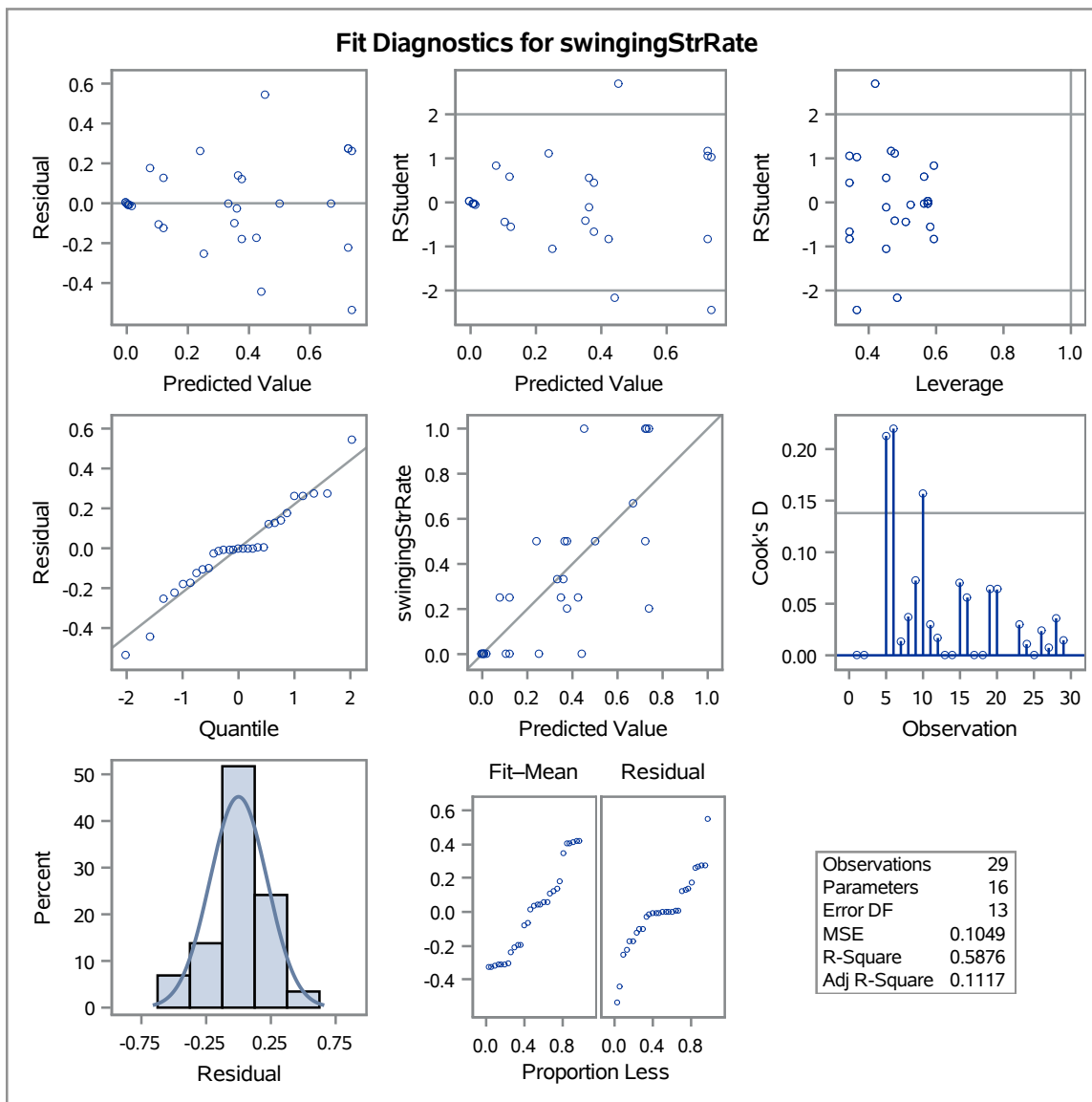
Dependent Variable: swingingStrRate

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	15	1.94303202	0.12953547	1.23	0.3548
Error	13	1.36382622	0.10490971		
Corrected Total	28	3.30685824			

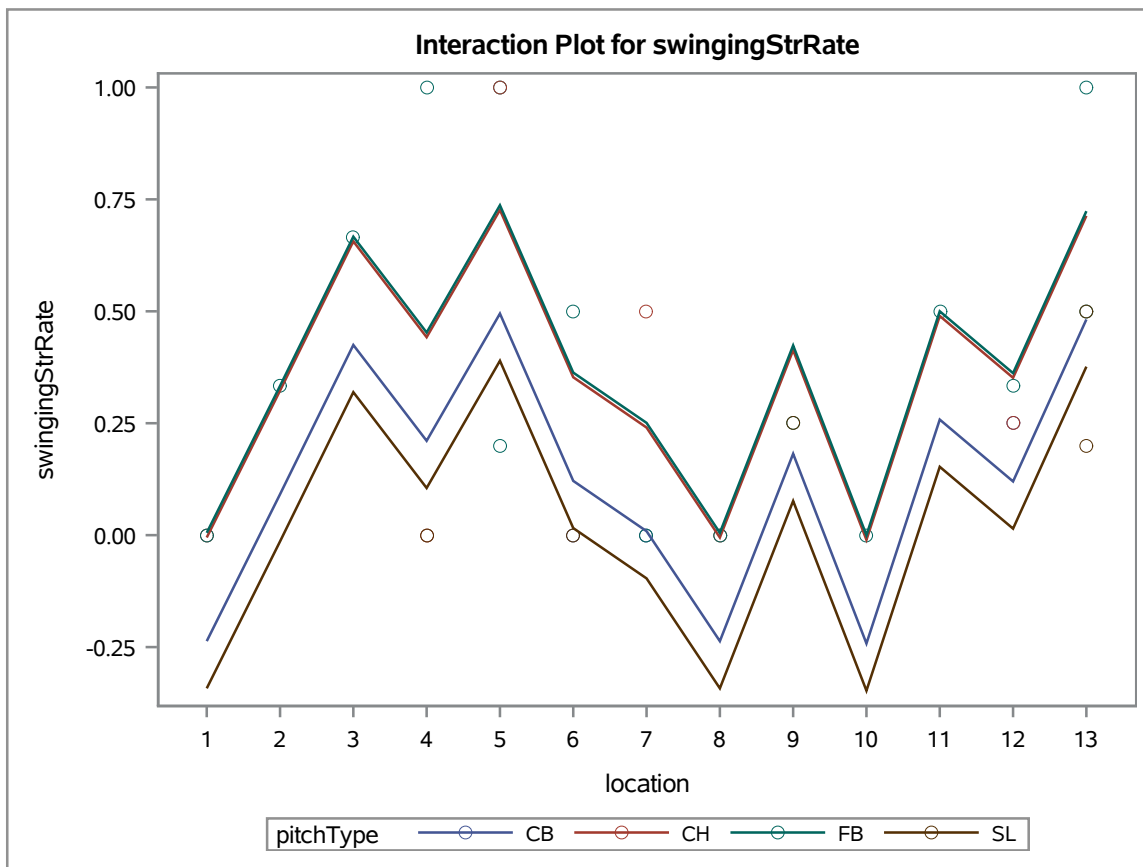
R-Square	Coeff Var	Root MSE	swingingStrRate Mean
0.587576	101.7296	0.323898	0.318391

Source	DF	Type III SS	Mean Square	F Value	Pr > F
location	12	1.53907193	0.12825599	1.22	0.3610
pitchType	3	0.39747008	0.13249003	1.26	0.3278

Dependent Variable: swingingStrRate



Dependent Variable: swingingStrRate



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

pitchType	swingingStrRate LSMEAN	LSMEAN Number
CB	0.12907588	1
CH	0.36058115	2
FB	0.37098958	3
SL	0.02365756	4

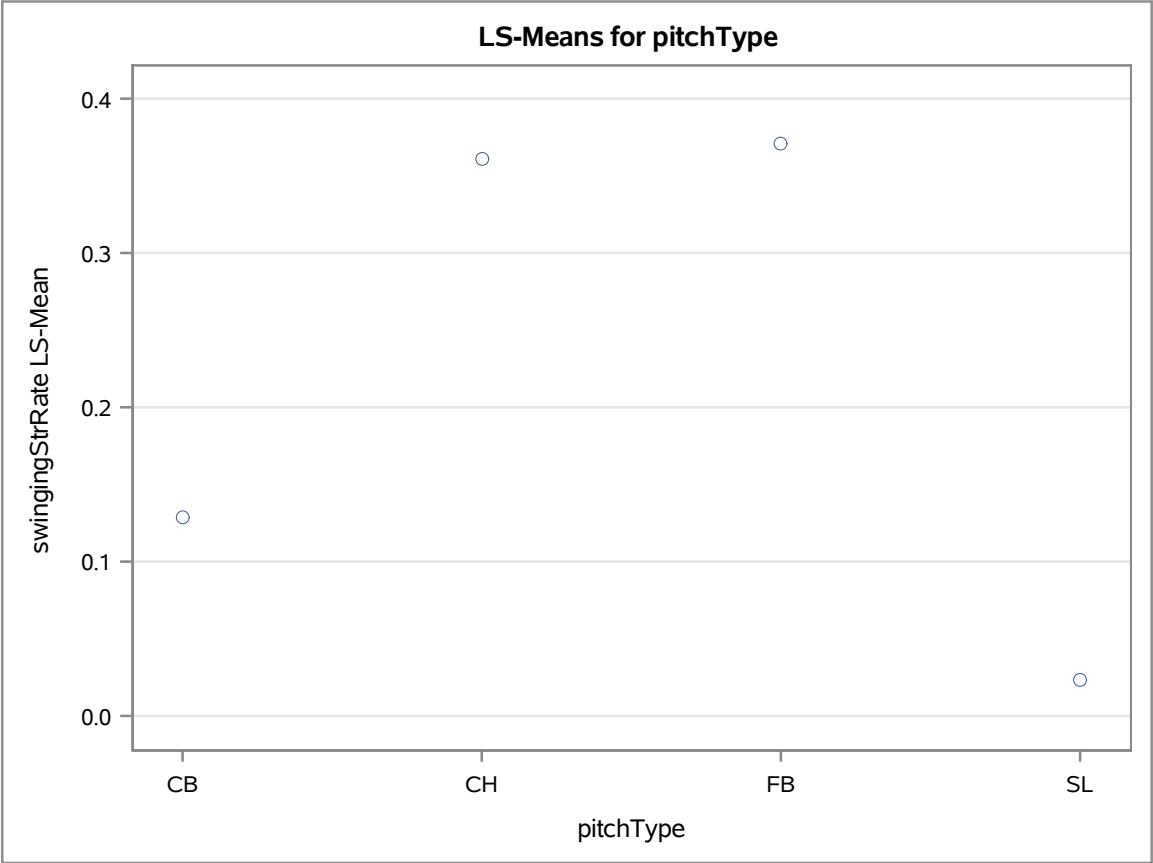
Least Squares Means for effect pitchType Pr >  t  for H0: LSMean(i)=LSMean(j) Dependent Variable: swingingStrRate				
i/j	1	2	3	4
1		0.8053	0.7474	0.9815
2	0.8053		0.9999	0.5331
3	0.7474	0.9999		0.3305
4	0.9815	0.5331	0.3305	

pitchType	swingingStrRate LSMEAN	95% Confidence Limits	
CB	0.129076	-0.353362	0.611513
CH	0.360581	0.024401	0.696762
FB	0.370990	0.186688	0.555292
SL	0.023658	-0.368336	0.415651

Least Squares Means for Effect pitchType				
i	j	Difference Between Means	Simultaneous 95% Confidence Limits for LSMean(i)-LSMean(j)	
1	2	-0.231505	-0.986931	0.523920
1	3	-0.241914	-0.945938	0.462111
1	4	0.105418	-0.724372	0.935209
2	3	-0.010408	-0.528018	0.507201

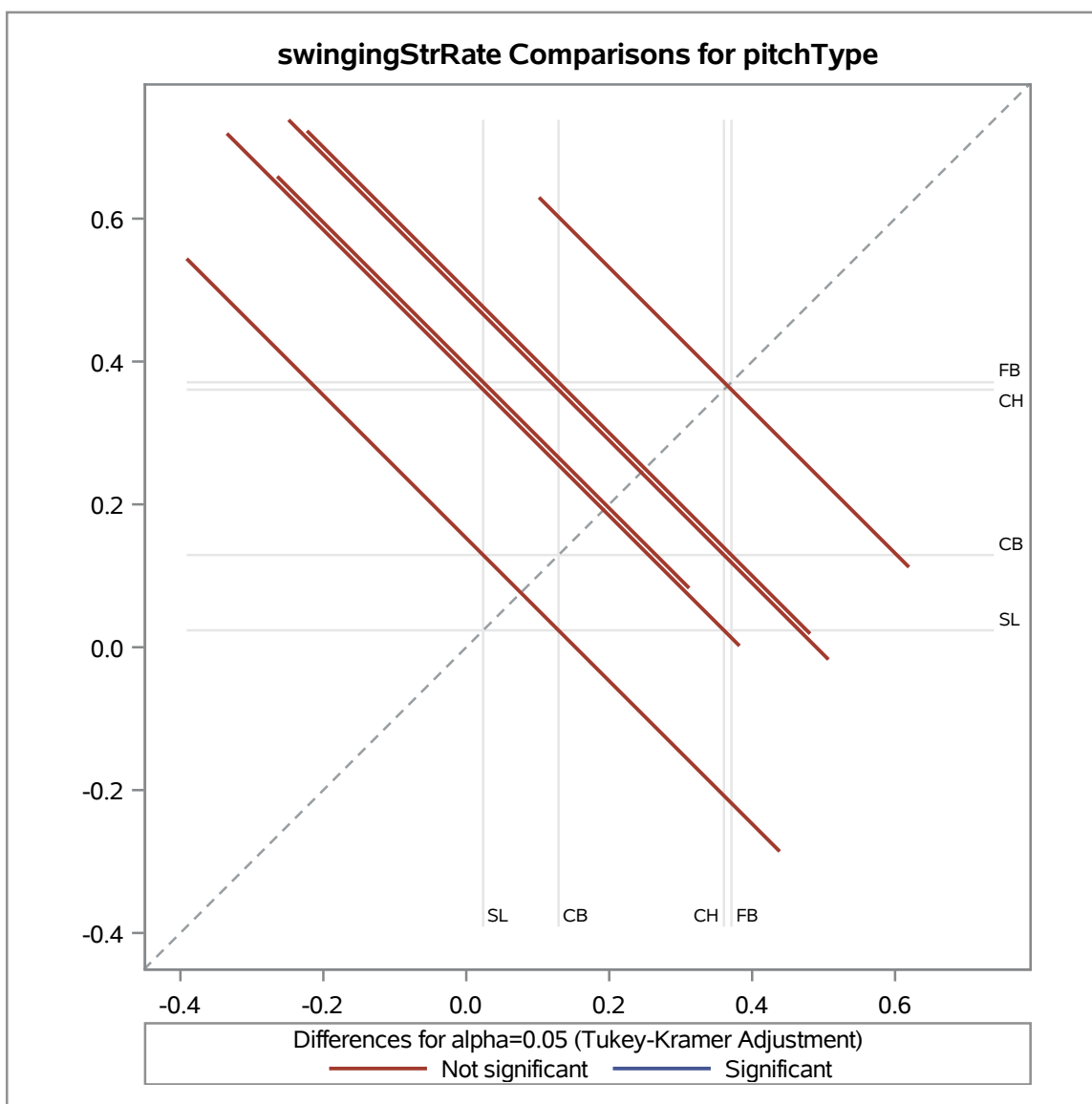
Least Squares Means  
Adjustment for Multiple Comparisons: Tukey-Kramer

Least Squares Means for Effect pitchType				
i	j	Difference Between Means	Simultaneous 95% Confidence Limits for LSMean(i)-LSMean(j)	
2	4	0.336924	-0.380297	1.054144
3	4	0.347332	-0.229053	0.923717





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	2	2	0	0.00%
2	3	3	1	33.33%
3	3	2	2	66.67%
4	4	3	1	25.00%
5	7	4	1	14.29%
6	4	4	1	25.00%
7	4	3	1	25.00%
8	6	4	0	0.00%
9	8	4	2	25.00%
10	2	0	0	0.00%
11	2	1	1	50.00%
12	11	1	1	9.09%
13	10	2	2	20.00%

## Swing and Miss Data by Pitch Type

Pitch Type	Total Pitches	Total Swings	Total Misses	Swinging Strike Rate
CB	9	3	1	11.11%
CH	14	4	1	7.14%
FB	32	21	9	28.13%
SL	11	5	2	18.18%

\*Data available for home games only\*

Dependent Variable: velocity

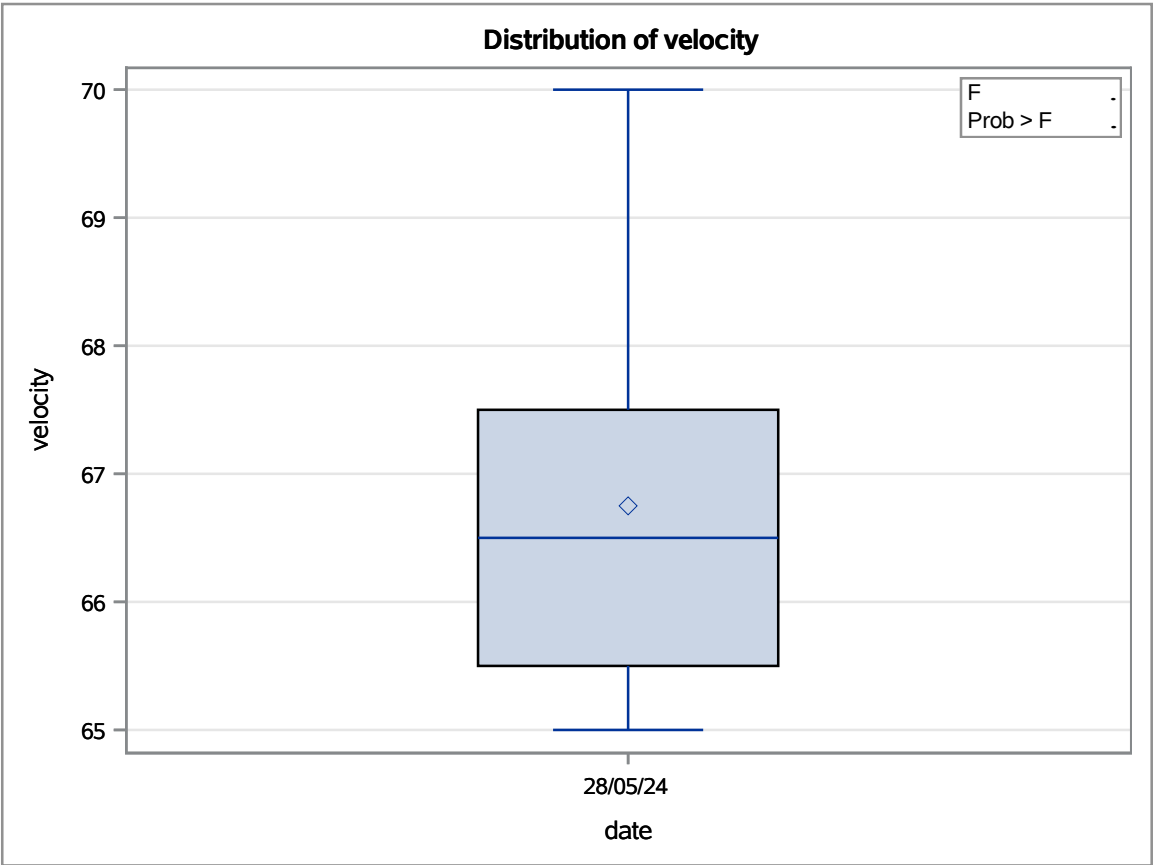
pitchType=CB

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	0	0.00000000	.	.	.
Error	7	19.50000000	2.78571429		
Corrected Total	7	19.50000000			

R-Square	Coeff Var	Root MSE	velocity Mean
0.000000	2.500443	1.669046	66.75000

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	.	.	.



\*Data available for home games only\*

Dependent Variable: velocity

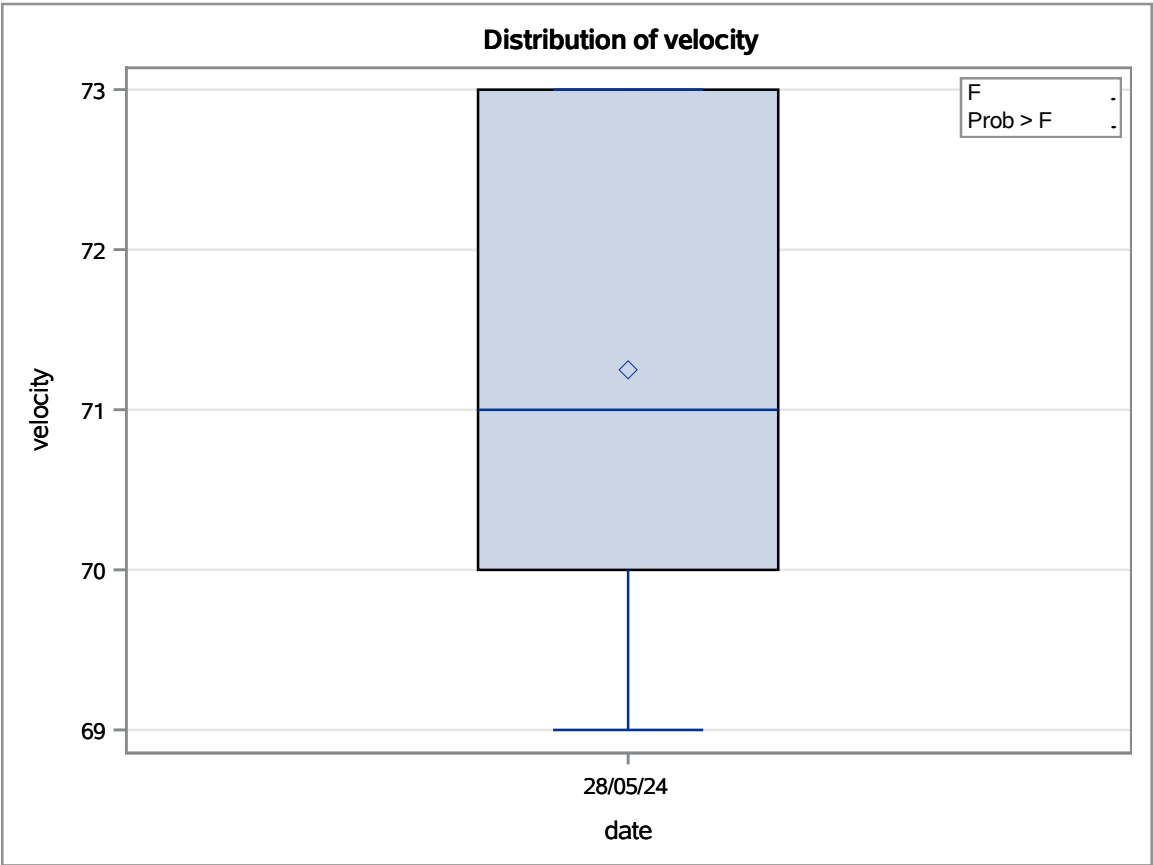
pitchType=CH

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	0	0.00000000	.	.	.
Error	7	17.50000000	2.50000000		
Corrected Total	7	17.50000000			

R-Square	Coeff Var	Root MSE	velocity Mean
0.000000	2.219142	1.581139	71.25000

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

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\*Data available for home games only\*

Dependent Variable: velocity

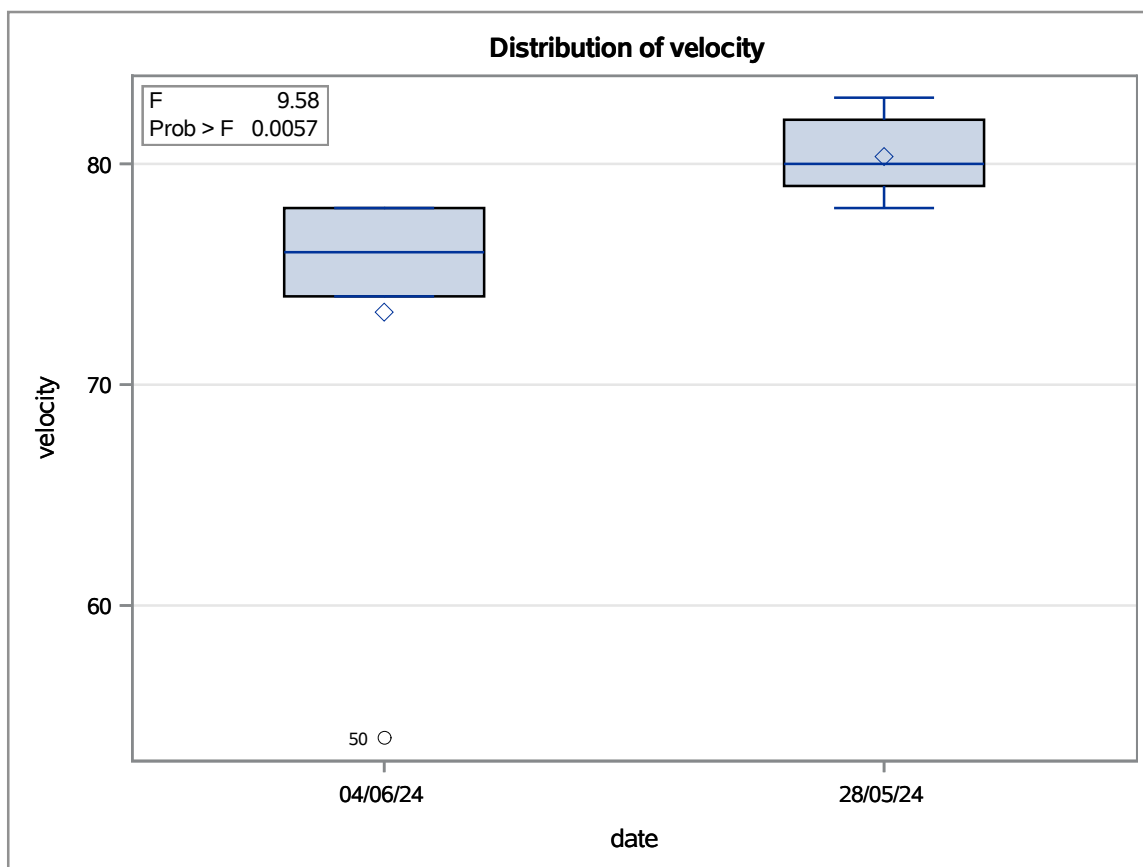
pitchType=FB

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	237.0562771	237.0562771	9.58	0.0057
Error	20	494.7619048	24.7380952		
Corrected Total	21	731.8181818			

R-Square	Coeff Var	Root MSE	velocity Mean
0.323928	6.369167	4.973741	78.09091

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	1	237.0562771	237.0562771	9.58	0.0057

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	1	237.0562771	237.0562771	9.58	0.0057



\*Data available for home games only\*

Dependent Variable: velocity

pitchType=SL

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	70.53333333	70.53333333	2.55	0.1858
Error	4	110.8000000	27.7000000		
Corrected Total	5	181.3333333			

R-Square	Coeff Var	Root MSE	velocity Mean
0.388971	7.144451	5.263079	73.66667

Source	DF	Type I SS	Mean Square	F Value	Pr > F
date	1	70.53333333	70.53333333	2.55	0.1858

Source	DF	Type III SS	Mean Square	F Value	Pr > F
date	1	70.53333333	70.53333333	2.55	0.1858

