Base Ball Player's Performance Analysis Write-up

Data-set Used :Base Ball Data set

LINKS to the workbook:
1.   https://public.tableau.com/profile/publish/BaseBallAnalysis/Story1#!/publish-confirm
2.   After feedback
https://public.tableau.com/profile/publish/Performanceanalysisofbaseballplayers-v1/Story1#!/publish-confirm

SUMMARY:
From the visualization graphs it can be clearly observed that the following relationship exist
1. Left handed players have performed better than the Right handed and ambidextrous players in terms of Home runs and Average.
2. There seems to be a relationship between the height ,weight and the average scores .With increase in height or weight the average scores show a declining trend

DESIGN:
Choices for initial version :
Have performed some exploratory analysis to get an idea about the data at large before getting into the explanatory visuals.Multiple chart types and Layouts have been used throughout the analysis.

Exploring the handedness : Have used a **pie chart** to show the percentage of people for each of the handedness.Right handedness seems to be a dominant trait.A pie chart is a ideal choice to show percentage break up for a single discrete dimension.
*Legend:*Handedness - discrete

Exploring Handedness with Height and weight:**Combined Bar charts** are used to show the average values based on height and weight for each handedness.
Reading the data Tip : Left handed players in the dataset weigh an average of 185 pounds are on average 72.7 inches tall.
*Legend:*Measure Names - Average Height and Average Weight

On the explanatory analysis:
Performance and Handednes:
Initially handedness is mapped with home runs using **Packed bubbles** where the size of the bubble indicates the performance .
*Legend:*Handedness - discrete

Handedness is also mapped with average scores using **filled squares** where the hue determines the score (lighter hues for lesser scores and the darker ones for higher scores)
Legend: Average of Avg scores -Continuous value

Combining the above 2 visualizations in a single plot, a **horizontal bar plot** has been used to depict the performance based on handedness with and Left handed players emerge on the top considering both criteria.
*Legend:*Handedness - discrete

Performance with height:
Histogram is used to plot the height values(continuous) and a **line chart** is placed on top of that to show the mean of average scores for each bin in the histogram.Dual axis indicates the score values in the right and the trend line shows a inverse relation between height and average score.
Legend: % of total count for the histogram and Average of Avg scores for the Line chart

A similar chart option is used to compare Home runs and height but no clear relationship is observed.
Legend: % of total count for the histogram and Average of HR scores for the Line chart

Performance with Weight:

Histogram is used to plot the weight values(continuous) and a **line chart** is placed on top of that to show the mean of average scores for each bin in the histogram.Dual axis indicates the score values in the right and the trend line shows a inverse relation between height and average score.
Legend: % of total count for the histogram and Average of Avg scores for the Line chart

A similar chart option is used to compare Home runs and weight but no clear relationship is observed.
Legend: % of total count for the histogram and Average of HR scores for the Line chart

Dash Board:

3 charts have been chosen to depict the relationship observed:
1. Handedness and performance with left handedness showing the best performance
2. Inverse relation between height and Average scores
3. Inverse relation between weight and Average scores.

Observation:

The observations /take aways from each of the plots are shown in a drag text box where ever applicable

Interaction: A hover option is applied as a filter in the Top section of the Dash board where by the relationships in the bottom plots can be filtered by hovering over the handedness

DESIGN CHANGES AS PER FEEDBACK (other pointers) version 1:

1.Modified the legend title to % of Total No.of records since it was too long and was getting truncated .It indicates the % of left /right/both handed players in the total number of records.
2.Ambidextrous players on an average weigh lower than the right and Left handed players based on the data.Mistake rectified.Mistakenly swapped weight and height while writing the observation.It is weight which is lower for ambidextrous players
3.Modified
4.Batting averages are less than 1 in baseball(unlike cricket) and it is calculated by the formula
Average   = number of hits/number of at bats
% of total average was showing incorrectly and inappropriately in this plot.It is removed.
Modified the chart type to bar chart for the discreteness of handedness and labeled the average values to show the scores.
5.Have modified the Labels since they were looking cluttered.Have changes the device settings to laptop browser size in the dashboard.

FEEDBACK 1:

a)   What do you notice in the visualization? - performance (average score and home run) of baseball players against different parameters like handedness, height and wight
b)   What questions do you have about the data? - None
c)   What relationships do you notice? - Inverse relationship between performance and height/ weight and Direct relationship with Left handedness and performance
d)   What do you think is the main takeaway from this visualization? - You need to be a leftie or ambidextrous and of medium height and weight to have a good performance
e)   Is there something you don't understand in the graphic? Nothing

Other pointers:

1.Exploring percentage of handedness – Below the legends there is "% of total number …" – it is not clear / complete.
2. Analyzing handedness with height and weight – ambidextrous players slightly lower on weight or height. Did you do statistically or just like that – because weight seems to slightly lower than the others compared to height
3. text is on circle – it should be slightly away

4. not very intuitive – could have been different bars rather than stacked bars. How come average is less than 1? And when I roll over my mouse, I get a % of total average – what is that

5.Last performance snapshot –major and minor trends are not displaying fully

REFERENCES:

https://community.tableau.com/thread/106166
https://public.tableau.com/en-us/s/resources
https://community.tableau.com/thread/106166
https://www.tableau.com/learn/tutorials/on-demand/histograms
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