

PROJECT 1

The dynamics of powerlifting

Powerlifting Competitions & Relevance

Squat



Bench Press

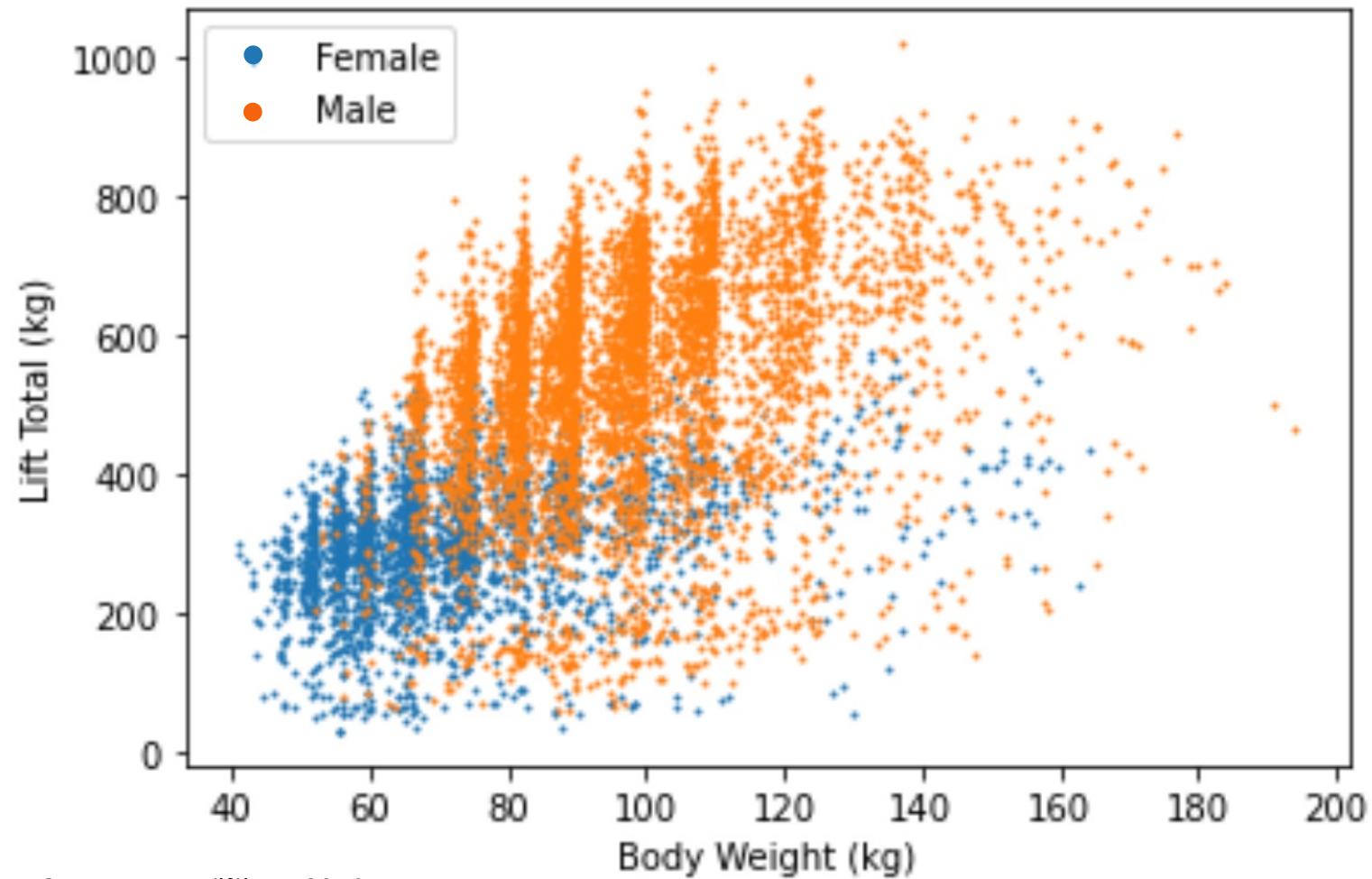


Deadlift



Squat + Bench Press + Deadlift = total

Body Weight VS Lift Totals



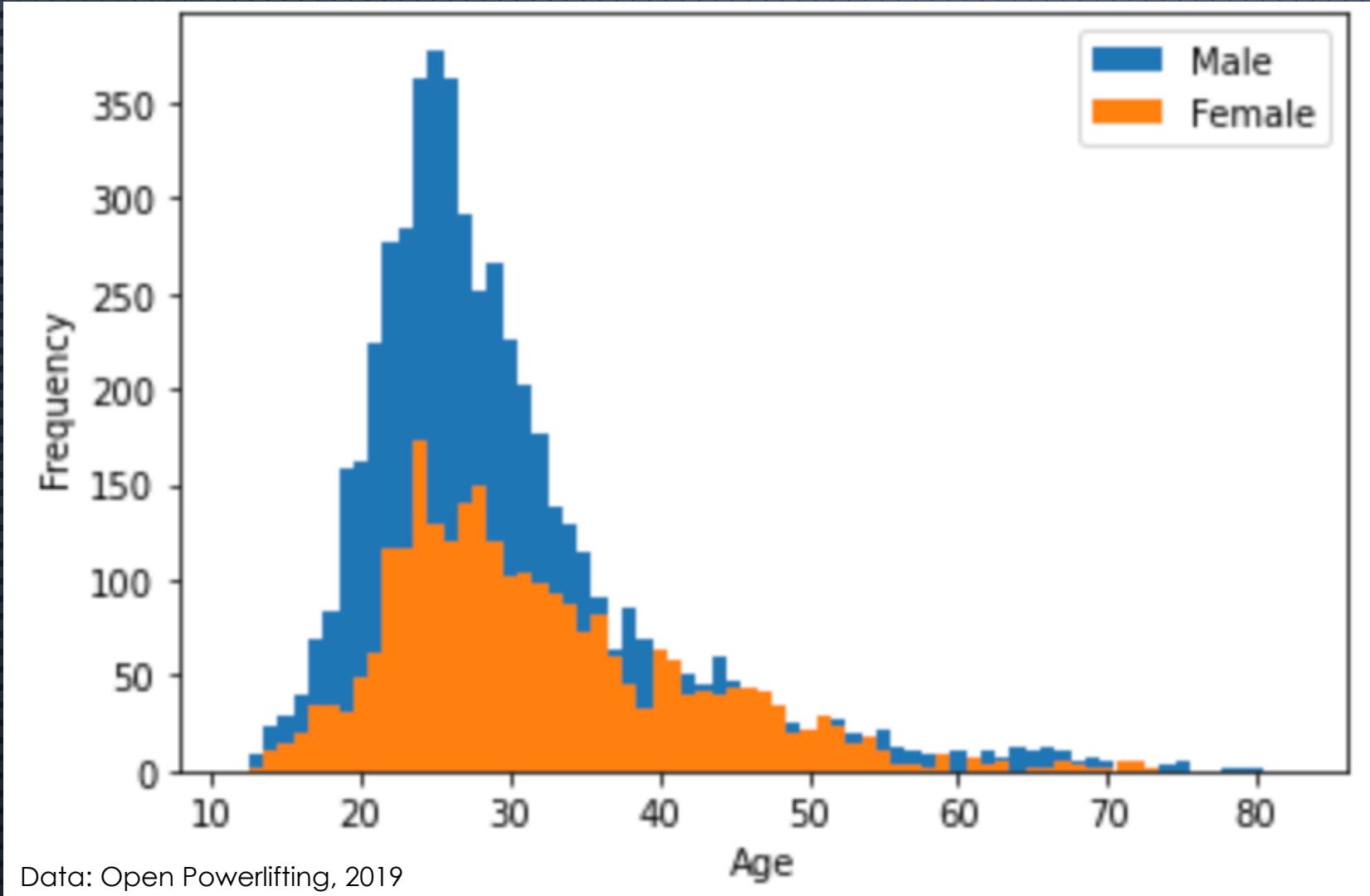
Key Take-aways:

- Men generally have higher totals than woman
- Men generally weigh more than woman
- Positive relationship between body weight and lifting total
- Vertical lines show competitors sit at the upper limit of weight division

Methodology:

- Data separated into male and female using python
- Female and male body weight plotted along x-axis and against lift totals along y-axis using scatter plot function in python

Number of Competitors vs Age



Key Take-aways:

- There are far more men competitors than women
- Majority of men competing are aged between 18 and 33
- Majority of women competing are aged between 22 and 37
- Positively skewed distribution

Methodology:

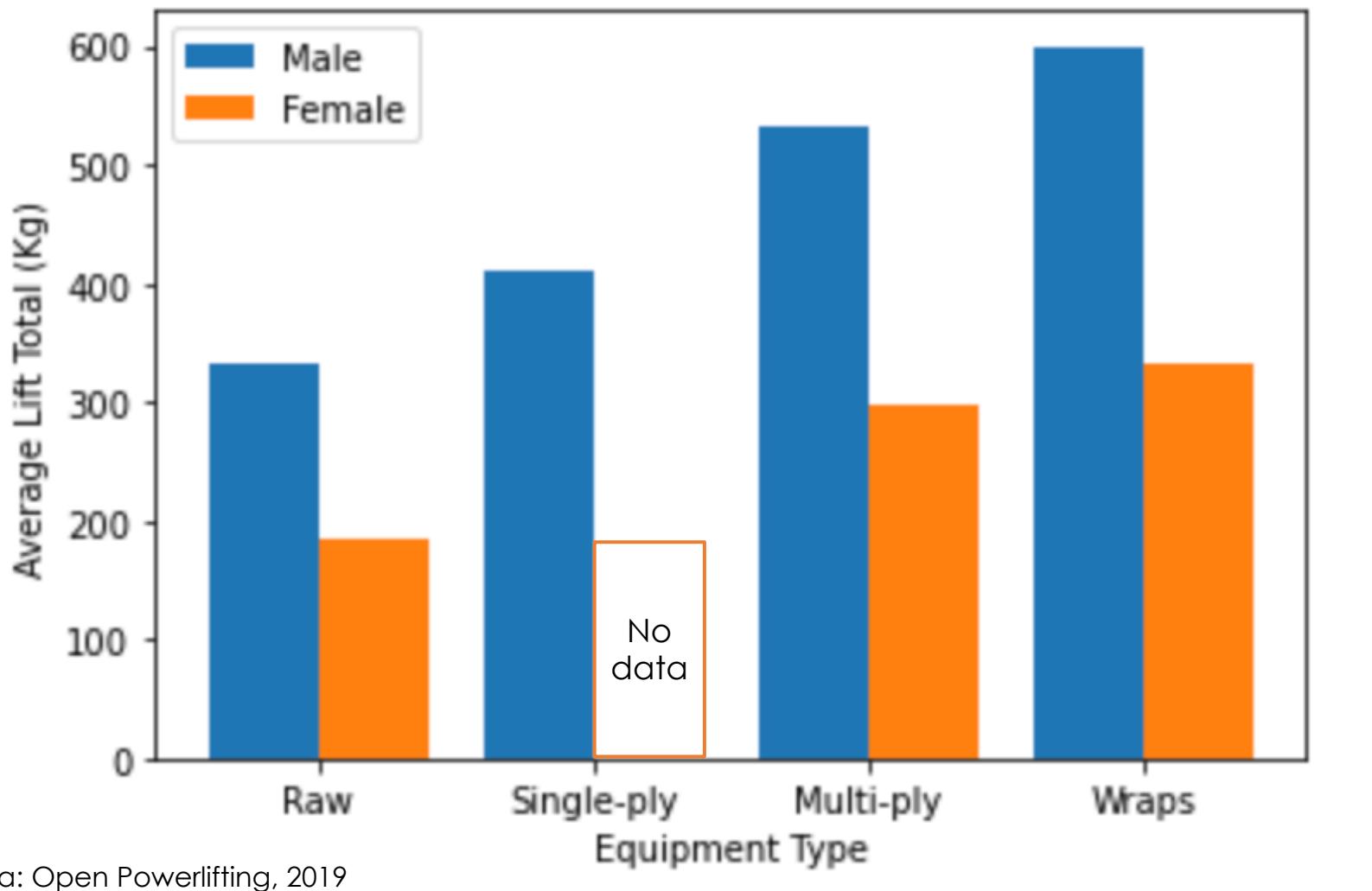
- Data separated into male and female using python
- Array of frequency created by using counter function to count the occurrences of each age
- Female and male ages plotted along x-axis and against frequency of each along y-axis using bar graph function

Equipment Type vs Lifting Total

Note:

-No data for female single-ply competitions

-Small sample size male single-ply



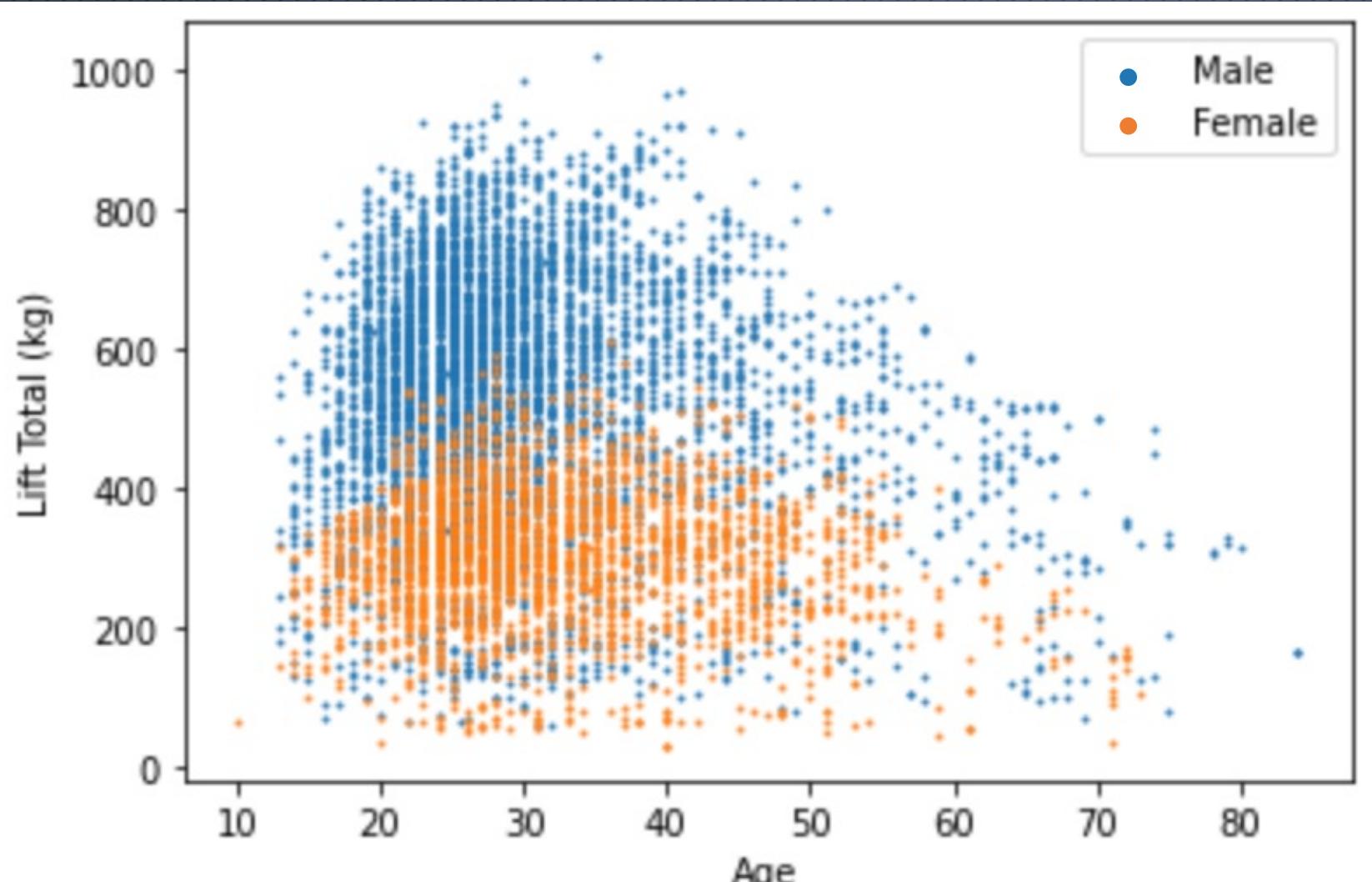
Key Take-aways:

- Any additional equipment provides significant advantage over no assistance equipment
- Wraps provide 277kg increase for males on average when compared to raw
- Single ply competitions very rare
- Best to Worst assistance: raw, single-ply, multi-ply, wraps

Methodology:

- Data divided into male and female
 - For each: frequency of each equipment type and sum of totals for each equipment type found then used to calculate average total for each equipment type.
- Equipment type plotted along x-axis and against average lift totals for each type along y-axis using bar plot function in python

Age vs Lift Total



Data: Open Powerlifting, 2019

Key Take-aways:

- Individuals are strongest between 20 and 30
- Strength begins to quickly taper off after 40
- Very few competitors above 50

Methodology:

- Data separated into male and female using python
- Female and male ages plotted along x-axis and against lift totals along y-axis using scatter plot function in python

Reference List:

OpenPowerlifting, 2019. *Powerlifting Database*. [online] Available at: <<https://www.kaggle.com/datasets/open-powerlifting/powerlifting-database?resource=download>> [Accessed 23 August 2022]

