Elyse EDA Updated

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```
library(tidyverse)
library(ggpubr)
```

Loading Data

```
women <- read.csv('cleaned data/restricted_women_2023.csv')
men <- read.csv('cleaned data/restricted_men_2023.csv')
all <- read.csv('cleaned data/full_data_2023.csv')
```

Women's Data

Vault

```
women_vt <- women%>%
  filter(stringr::str_like(Apparatus,'VT%') & Rank <= 5)
```

```
# best average scores
women_vt_summary <- women_vt %>%
  group_by(FullName, Country) %>%
  summarise(avg_score = mean(Score), min_score = min(Score), max_score = max(Score))

head(women_vt_summary)
```

```
## # A tibble: 6 x 5
## # Groups:   FullName [6]
##   FullName         Country avg_score min_score max_score
##   <chr>            <chr>       <dbl>     <dbl>     <dbl>
## 1 ACHAMPONG ONDINE GBR          14.1      13.9      14.5
## 2 ANDRADE REBECA   BRA          14.8      14.4      15.2
## 3 ARCHER SHANNON   GBR          13.3      12.9      13.8
## 4 BACSKAY CSENGE   HUN          13.1      12.5      13.4
## 5 BELBIN ELLIE     GBR          13.0      12.7      13.2
## 6 BILES SIMONE     USA          14.9      14.6      15.3
```

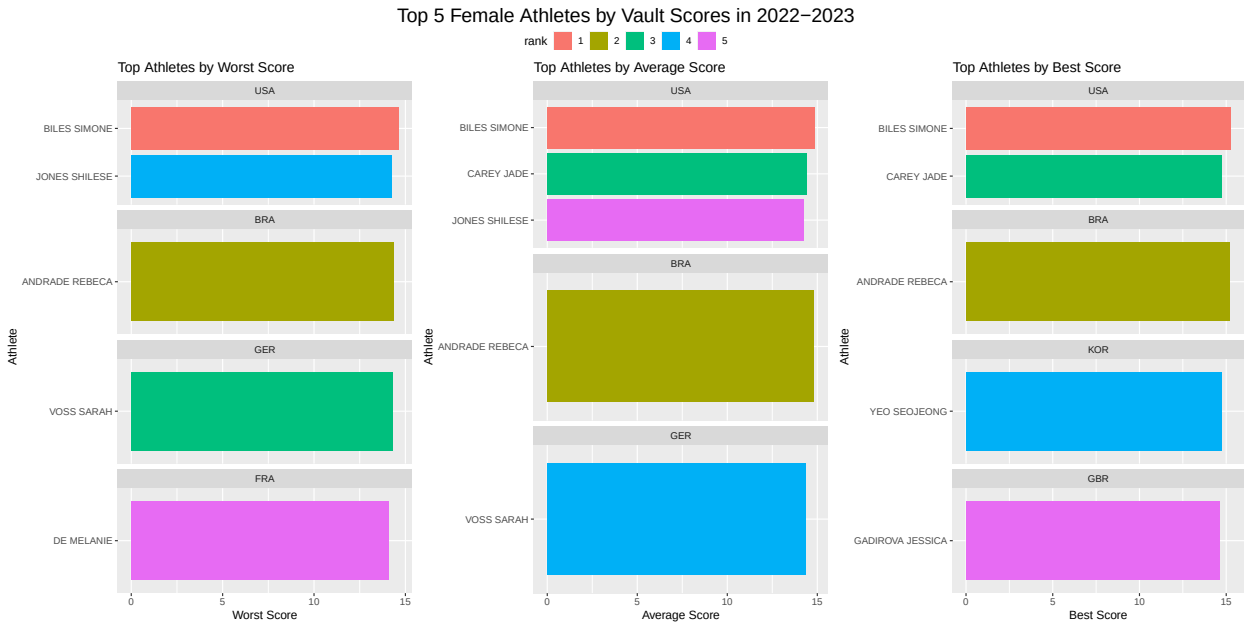
```
vt_avg <- women_vt_summary %>%
  ungroup() %>%
  arrange(desc(avg_score)) %>%
  slice(1:5) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, avg_score), x = avg_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Average Score",
       y = "Athlete", x = "Average Score") +
```

```
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

vt_best <- women_vt_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(max_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, max_score), x = max_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Best Score",
       y = "Athlete", x = "Best Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

vt_worst <- women_vt_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(min_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, min_score), x = min_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Worst Score",
       y = "Athlete", x = "Worst Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")
```

```
vt_eda <- ggpubr::ggarrange(vt_worst, vt_avg, vt_best, ncol = 3, common.legend = T)
vt_eda <- ggpubr::annotate_figure(vt_eda, top = text_grob("Top 5 Female Athletes by Vault Scores in 202
vt_eda
```



Balance Beam

```
women_bb <- women%>%
  filter(stringr::str_like(Apparatus,'BB%'))
```

```
# best average scores
women_bb_summary <- women_bb %>%
  group_by(FullName, Country) %>%
  summarise(avg_score = mean(Score), min_score = min(Score), max_score = max(Score))

head(women_bb_summary)
```

```
## # A tibble: 6 x 5
## # Groups:   FullName [6]
##   FullName         Country avg_score min_score max_score
##   <chr>            <chr>       <dbl>     <dbl>     <dbl>
## 1 ACHAMPONG ONDINE GBR          13.4      12.5      13.9
## 2 ANDRADE REBECA   BRA          13.4      12.7      14.3
## 3 ANDREOLI ANGELA  ITA          13.0      12.7      13.2
## 4 ARCHER SHANNON   GBR          11.9      10.3      12.7
## 5 ARTAMONOVA SONA  CZE          12.5      12.1      12.7
## 6 ASHIKAWA URARA   JPN          13.8      13.1      14.1
```

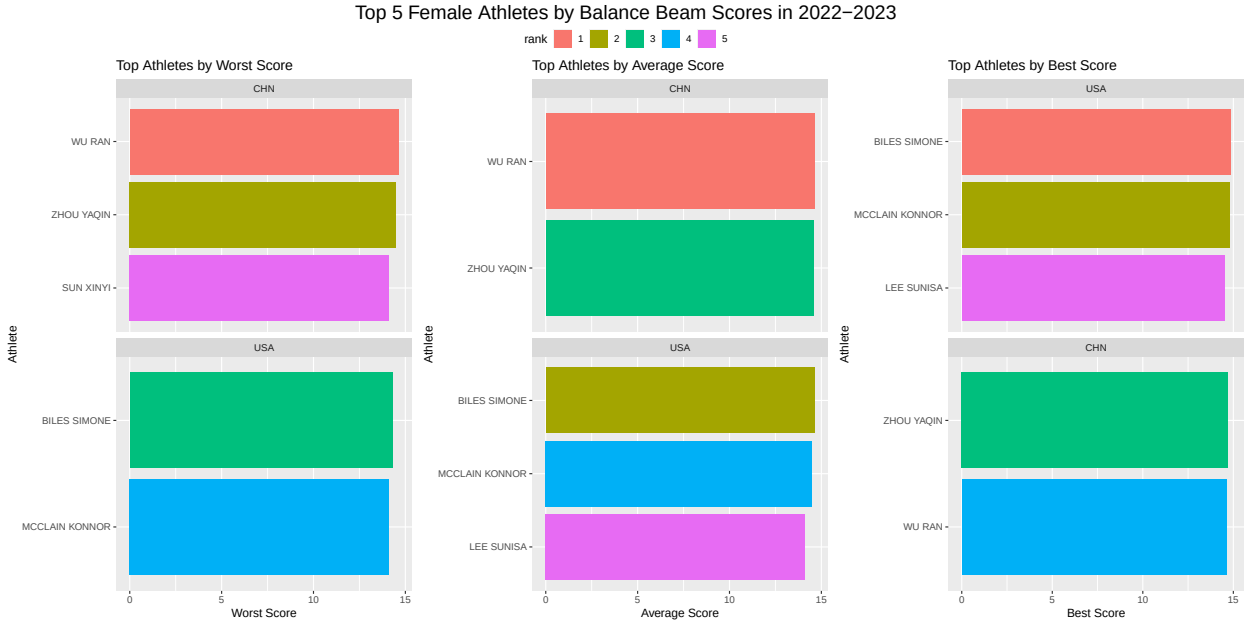
```
bb_avg <- women_bb_summary %>%
  ungroup() %>%
  arrange(desc(avg_score)) %>%
  slice(1:5) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, avg_score), x = avg_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Average Score",
       y = "Athlete", x = "Average Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

bb_best <- women_bb_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(max_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, max_score), x = max_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Best Score",
       y = "Athlete", x = "Best Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

bb_worst <- women_bb_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(min_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
```

```
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, min_score), x = min_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Worst Score",
       y = "Athlete", x = "Worst Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")
```

```
bb_eda <- ggpubr::ggarrange(bb_worst, bb_avg, bb_best, ncol = 3, common.legend = T)
bb_eda <- ggpubr::annotate_figure(bb_eda, top = text_grob("Top 5 Female Athletes by Balance Beam Scores
bb_eda
```



Floor Exercises

```
women_fx <- women%>%
  filter(stringr::str_like(Apparatus,'FX%'))
```

```
# best average scores
women_fx_summary <- women_fx %>%
  group_by(FullName, Country) %>%
  summarise(avg_score = mean(Score), min_score = min(Score), max_score = max(Score))

head(women_fx_summary)
```

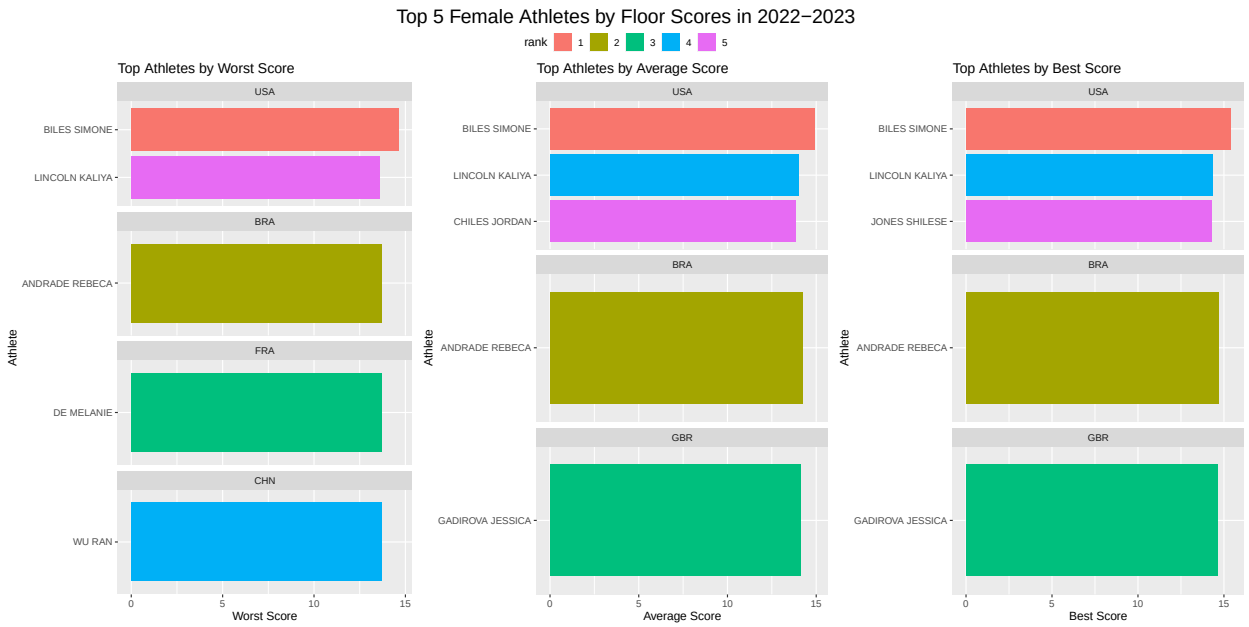
```
## # A tibble: 6 x 5
## # Groups:   FullName [6]
##   FullName         Country avg_score min_score max_score
##   <chr>            <chr>       <dbl>     <dbl>     <dbl>
## 1 ACHAMPONG ONDINE GBR          12.8      12.0      13.4
## 2 ANDRADE REBECA   BRA          14.2      13.7      14.7
## 3 ANDREOLI ANGELA  ITA          13.5      13        13.9
## 4 ARCHER SHANNON   GBR          12.4      11.5      12.9
## 5 ARTAMONOVA SONA  CZE          12.1      11.2      12.7
## 6 ASHIKAWA URARA   JPN          12.7      12.7      12.7
```

```r
fx_avg <- women_fx_summary %>%
  ungroup() %>%
  arrange(desc(avg_score)) %>%
  slice(1:5) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, avg_score), x = avg_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Average Score",
       y = "Athlete", x = "Average Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

fx_best <- women_fx_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(max_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, max_score), x = max_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Best Score",
       y = "Athlete", x = "Best Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

fx_worst <- women_fx_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(min_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, min_score), x = min_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Worst Score",
       y = "Athlete", x = "Worst Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")
```

```r
fx_eda <- ggpubr::ggarrange(fx_worst, fx_avg, fx_best, ncol = 3, common.legend = T)
fx_eda <- ggpubr::annotate_figure(fx_eda, top = text_grob("Top 5 Female Athletes by Floor Scores in 202
fx_eda
```



Uneven Bars

```
women_ub <- women%>%
  filter(stringr::str_like(Apparatus,'UB%'))
```

```
# best average scores
women_ub_summary <- women_ub %>%
  group_by(FullName, Country) %>%
  summarise(avg_score = mean(Score), min_score = min(Score), max_score = max(Score))

head(women_ub_summary)
```

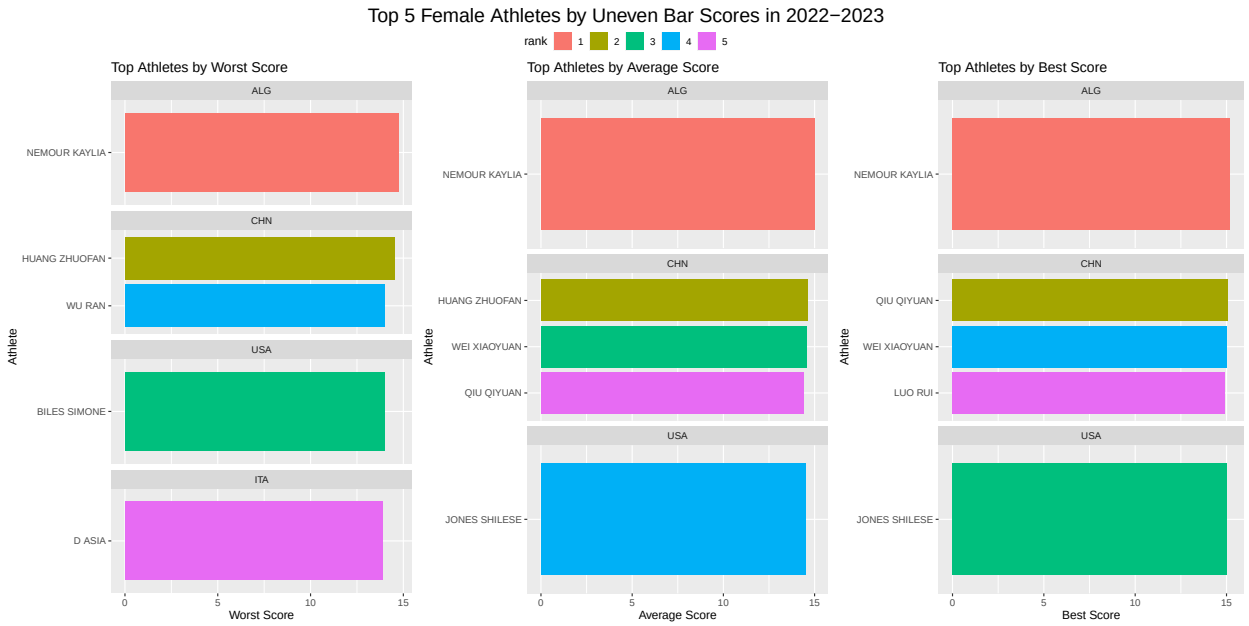
```
## # A tibble: 6 x 5
## # Groups:   FullName [6]
##   FullName         Country avg_score min_score max_score
##   <chr>            <chr>       <dbl>     <dbl>     <dbl>
## 1 ACHAMPONG ONDINE GBR          13.1      12.2       14.1
## 2 ANDRADE REBECA   BRA          14.2      12.8       14.7
## 3 ANDREOLI ANGELA  ITA          12.7      12.7       12.7
## 4 ARCHER SHANNON   GBR          11.9      11.4       12.4
## 5 ARTAMONOVA SONA  CZE          11.5      11.5       11.6
## 6 BACSKAY CSENGE   HUN          11.4       9.27      12.9
```

```
ub_avg <- women_ub_summary %>%
  ungroup() %>%
  arrange(desc(avg_score)) %>%
  slice(1:5) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, avg_score), x = avg_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Average Score",
       y = "Athlete", x = "Average Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")
```

```r
ub_best <- women_ub_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(max_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, max_score), x = max_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Best Score",
       y = "Athlete", x = "Best Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

ub_worst <- women_ub_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(min_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, min_score), x = min_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Worst Score",
       y = "Athlete", x = "Worst Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")
```

```r
ub_eda <- ggpubr::ggarrange(ub_worst, ub_avg, ub_best, ncol = 3, common.legend = T)
ub_eda <- ggpubr::annotate_figure(ub_eda, top = text_grob("Top 5 Female Athletes by Uneven Bar Scores i
ub_eda
```



Men's Data

Vault

```
men_vt <- men%>%
  filter(stringr::str_like(Apparatus,'VT%') & Rank <= 5)

men_vt_summary <- men_vt %>%
  group_by(FullName, Country) %>%
  summarise(avg_score = mean(Score), min_score = min(Score), max_score = max(Score))

head(men_vt_summary)
```

```
## # A tibble: 6 x 5
## # Groups:   FullName [6]
##   FullName         Country avg_score min_score max_score
##   <chr>            <chr>       <dbl>     <dbl>     <dbl>
## 1 ASIL ADEM        TUR          14.4      13.5      15.3
## 2 BAPTISTE RAEKWON GBR          13.9      13.3      14.5
## 3 BARBER EMIL      GBR          14.2      14.2      14.2
## 4 BARTOLINI NICOLA ITA          14.4      14.1      14.7
## 5 BLIXT LANDEN     USA          14.7      14.7      14.7
## 6 BURKHART TAYLOR  USA          14.4      14.2      14.6
```

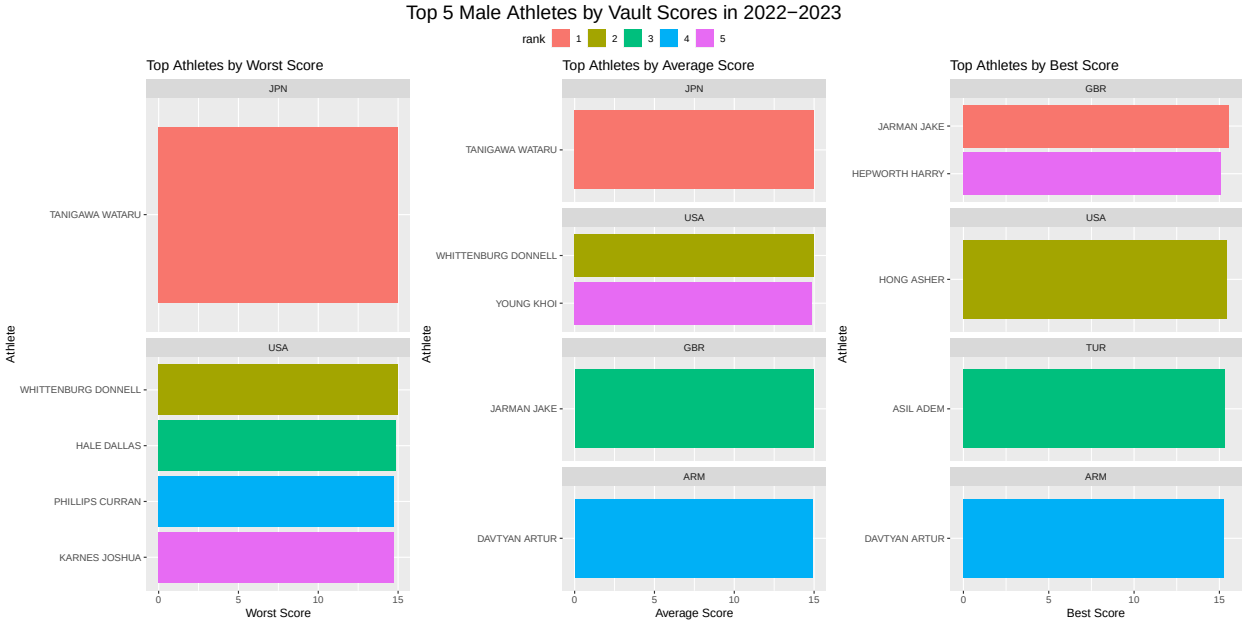
```
vt_avg <- men_vt_summary %>%
  ungroup() %>%
  arrange(desc(avg_score)) %>%
  slice(1:5) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, avg_score), x = avg_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Average Score",
       y = "Athlete", x = "Average Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

vt_best <- men_vt_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(max_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, max_score), x = max_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Best Score",
       y = "Athlete", x = "Best Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

vt_worst <- men_vt_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(min_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
```

```
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, min_score), x = min_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Worst Score",
       y = "Athlete", x = "Worst Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")
```

```
vt_eda <- ggpubr::ggarrange(vt_worst, vt_avg, vt_best, ncol = 3, common.legend = T)
vt_eda <- ggpubr::annotate_figure(vt_eda, top = text_grob("Top 5 Male Athletes by Vault Scores in 2022-2
vt_eda
```



Pommel Horse

```
men_ph <- men%>%
  filter(stringr::str_like(Apparatus,'PH%') & Rank <= 5)

men_ph_summary <- men_ph %>%
  group_by(FullName, Country) %>%
  summarise(avg_score = mean(Score), min_score = min(Score), max_score = max(Score))

head(men_ph_summary)
```

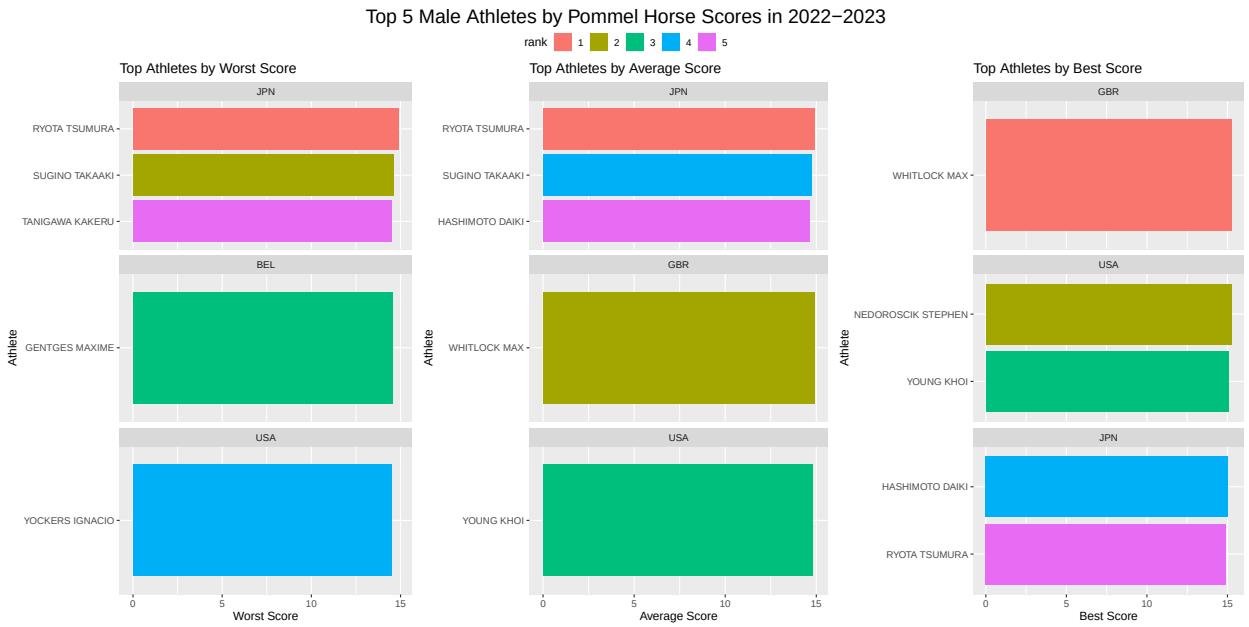
```
## # A tibble: 6 x 5
## # Groups:   FullName [6]
##   FullName         Country avg_score min_score max_score
##   <chr>            <chr>       <dbl>     <dbl>     <dbl>
## 1 ABBADINI YUMIN   ITA          13.9      13.8      14.1
## 2 ARICAN FERHAT    TUR          14.0      13.2      14.4
## 3 BAPTISTE RAEKWON GBR          12.4      12.1      12.6
## 4 BRENDEL PASCAL   GER          14.0      14.0      14.0
## 5 BURKHART TAYLOR  USA          13.6      13.6      13.6
## 6 CLAY ZACHARY     CAN          14.3      14.3      14.3
```

```r
ph_avg <- men_ph_summary %>%
  ungroup() %>%
  arrange(desc(avg_score)) %>%
  slice(1:5) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, avg_score), x = avg_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Average Score",
       y = "Athlete", x = "Average Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

ph_best <- men_ph_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(max_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, max_score), x = max_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Best Score",
       y = "Athlete", x = "Best Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

ph_worst <- men_ph_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(min_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, min_score), x = min_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Worst Score",
       y = "Athlete", x = "Worst Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")
```

```r
ph_eda <- ggpubr::ggarrange(ph_worst, ph_avg, ph_best, ncol = 3, common.legend = T)
ph_eda <- ggpubr::annotate_figure(ph_eda, top = text_grob("Top 5 Male Athletes by Pommel Horse Scores i
ph_eda
```



Horizontal Bar

```
men_hb <- men%>%
  filter(stringr::str_like(Apparatus,'HB%') & Rank <= 5)

men_hb_summary <- men_hb %>%
  group_by(FullName, Country) %>%
  summarise(avg_score = mean(Score), min_score = min(Score), max_score = max(Score))

head(men_hb_summary)
```

```
## # A tibble: 6 x 5
## # Groups:   FullName [6]
##   FullName          Country avg_score min_score max_score
##   <chr>             <chr>       <dbl>     <dbl>     <dbl>
## 1 ABAD NESTOR       ESP          13.7      13.6      13.8
## 2 ABBADINI YUMIN    ITA          13.5      13.5      13.5
## 3 ASIL ADEM         TUR          13.8      13.4      14.0
## 4 BAUMANN CHRISTIAN SUI          13.6      13.6      13.6
## 5 BITENCOURT LUCAS  BRA          14.3      14.3      14.3
## 6 BOCK CAMERON      USA          13.6      13.6      13.6
```

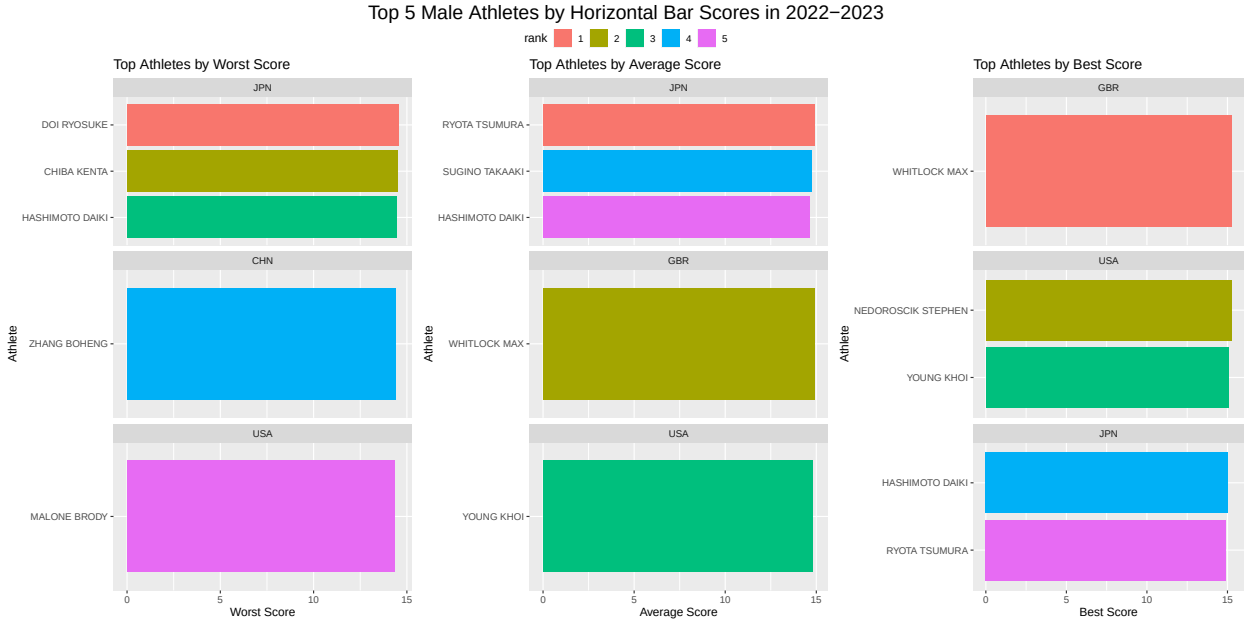
```
hb_avg <- men_hb_summary %>%
  ungroup() %>%
  arrange(desc(avg_score)) %>%
  slice(1:5) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, avg_score), x = avg_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Average Score",
       y = "Athlete", x = "Average Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

hb_best <- men_hb_summary %>%
```

```
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(max_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, max_score), x = max_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Best Score",
       y = "Athlete", x = "Best Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

hb_worst <- men_hb_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(min_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, min_score), x = min_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Worst Score",
       y = "Athlete", x = "Worst Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")
```

```
hb_eda <- ggpubr::ggarrange(hb_worst, ph_avg, ph_best, ncol = 3, common.legend = T)
hb_eda <- ggpubr::annotate_figure(hb_eda, top = text_grob("Top 5 Male Athletes by Horizontal Bar Scores
hb_eda
```



Floor

```
men_fx <- men%>%
  filter(stringr::str_like(Apparatus,'FX%') & Rank <= 5)

men_fx_summary <- men_fx %>%
  group_by(FullName, Country) %>%
  summarise(avg_score = mean(Score), min_score = min(Score), max_score = max(Score))

head(men_fx_summary)
```

```
## # A tibble: 6 x 5
## # Groups:   FullName [6]
##   FullName         Country avg_score min_score max_score
##   <chr>            <chr>       <dbl>     <dbl>     <dbl>
## 1 ALFONSO JAVIER   USA          14.3      14.3      14.3
## 2 ASIL ADEM        TUR          14.4      13.9      15.2
## 3 BAINES FRANK     GBR          13.4      13.4      13.4
## 4 BARBER EMIL      GBR          13.8      13.6      14.0
## 5 BARTOLINI NICOLA ITA          14.2      13.4      14.5
## 6 BURKHART TAYLOR  USA          14.1      14.0      14.3
```

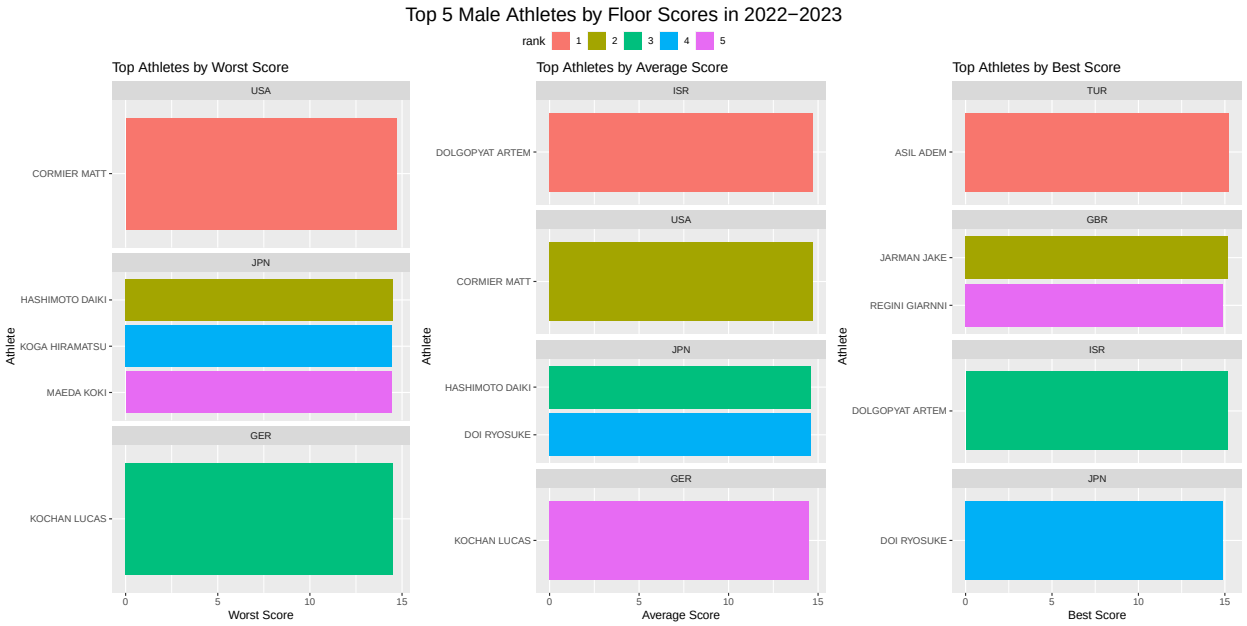
```
fx_avg <- men_fx_summary %>%
  ungroup() %>%
  arrange(desc(avg_score)) %>%
  slice(1:5) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, avg_score), x = avg_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Average Score",
       y = "Athlete", x = "Average Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

fx_best <- men_fx_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(max_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, max_score), x = max_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Best Score",
       y = "Athlete", x = "Best Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

fx_worst <- men_fx_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(min_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
```

```
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, min_score), x = min_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Worst Score",
       y = "Athlete", x = "Worst Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")
```

```
fx_eda <- ggpubr::ggarrange(fx_worst, fx_avg, fx_best, ncol = 3, common.legend = T)
fx_eda <- ggpubr::annotate_figure(fx_eda, top = text_grob("Top 5 Male Athletes by Floor Scores in 2022-2
fx_eda
```



Parallel Bars

```
men_pb <- men%>%
  filter(stringr::str_like(Apparatus,'PB%') & Rank <= 5)

men_pb_summary <- men_pb %>%
  group_by(FullName, Country) %>%
  summarise(avg_score = mean(Score), min_score = min(Score), max_score = max(Score))

head(men_pb_summary)
```

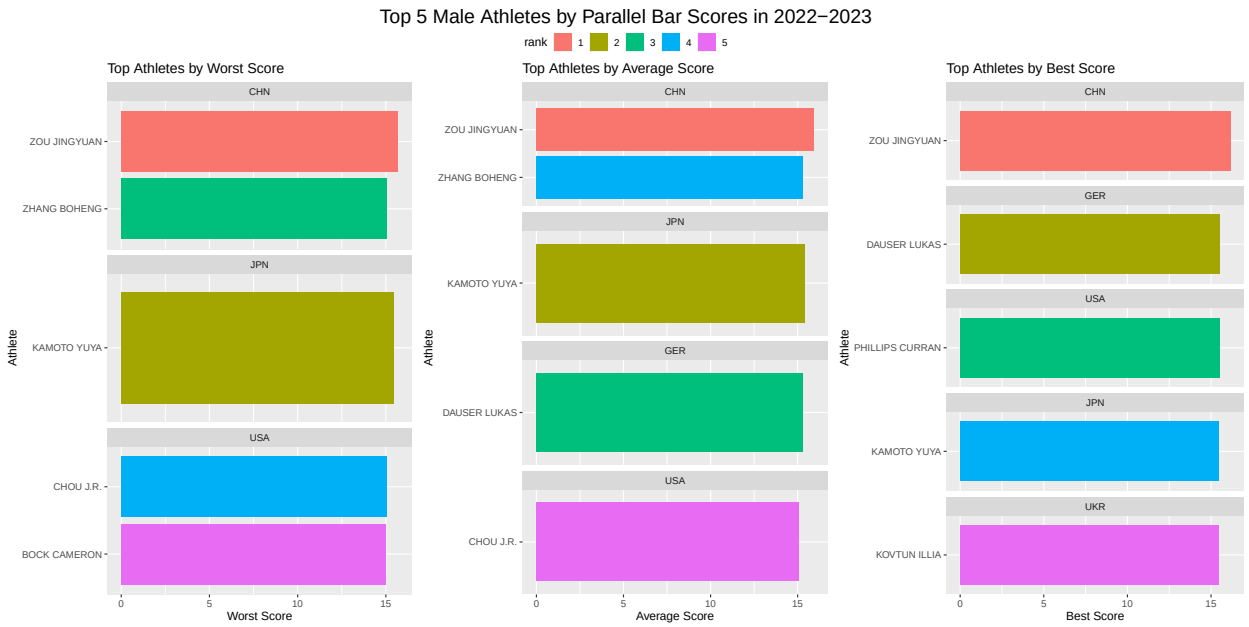
```
## # A tibble: 6 x 5
## # Groups:   FullName [6]
##   FullName        Country avg_score min_score max_score
##   <chr>           <chr>       <dbl>     <dbl>     <dbl>
## 1 ARICAN FERHAT   TUR          14.8      13.6      15.4
## 2 ASIL ADEM       TUR          14.3      14.3      14.3
## 3 BEVAN BRINN     GBR          14.3      14.1      14.4
## 4 BOCK CAMERON    USA          15        15        15
## 5 BURKHART TAYLOR USA          14.2      14.2      14.2
## 6 CEMLYN JOE      GBR          13.5      13.5      13.5
```

```r
pb_avg <- men_pb_summary %>%
  ungroup() %>%
  arrange(desc(avg_score)) %>%
  slice(1:5) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, avg_score), x = avg_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Average Score",
       y = "Athlete", x = "Average Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

pb_best <- men_pb_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(max_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, max_score), x = max_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Best Score",
       y = "Athlete", x = "Best Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

pb_worst <- men_pb_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(min_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, min_score), x = min_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Worst Score",
       y = "Athlete", x = "Worst Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")
```

```r
pb_eda <- ggpubr::ggarrange(pb_worst, pb_avg, pb_best, ncol = 3, common.legend = T)
pb_eda <- ggpubr::annotate_figure(pb_eda, top = text_grob("Top 5 Male Athletes by Parallel Bar Scores i
pb_eda
```



Still Rings

```
men_sr <- men%>%
  filter(stringr::str_like(Apparatus,'PB%') & Rank <= 5)

men_sr_summary <- men_sr %>%
  group_by(FullName, Country) %>%
  summarise(avg_score = mean(Score), min_score = min(Score), max_score = max(Score))

head(men_sr_summary)
```

```
## # A tibble: 6 x 5
## # Groups:   FullName [6]
##   FullName        Country avg_score min_score max_score
##   <chr>           <chr>       <dbl>     <dbl>     <dbl>
## 1 ARICAN FERHAT   TUR          14.8      13.6      15.4
## 2 ASIL ADEM       TUR          14.3      14.3      14.3
## 3 BEVAN BRINN     GBR          14.3      14.1      14.4
## 4 BOCK CAMERON    USA          15        15        15
## 5 BURKHART TAYLOR USA          14.2      14.2      14.2
## 6 CEMLYN JOE      GBR          13.5      13.5      13.5
```

```
sr_avg <- men_sr_summary %>%
  ungroup() %>%
  arrange(desc(avg_score)) %>%
  slice(1:5) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, avg_score), x = avg_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Average Score",
       y = "Athlete", x = "Average Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

sr_best <- men_sr_summary %>%
```

```
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(max_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, max_score), x = max_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Best Score",
       y = "Athlete", x = "Best Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")

sr_worst <- men_sr_summary %>%
  ungroup() %>%
  #group_by(Country) %>%
  arrange(desc(min_score)) %>%
  slice(1:5) %>%
  #ungroup() %>%
  #arrange(desc(min_score)) %>%
  mutate(rank = ifelse(row_number() <= 5, row_number(), NA), rank = as.factor(rank)) %>%
  ggplot(aes(y= reorder(FullName, min_score), x = min_score, fill = rank)) +
  geom_col(stat = "identity") +
  labs(title = "Top Athletes by Worst Score",
       y = "Athlete", x = "Worst Score") +
  facet_wrap(~factor(Country, unique(Country)), ncol = 1, scales = "free_y")
```

```
sr_eda <- ggpubr::ggarrange(sr_worst, sr_avg, sr_best, ncol = 3, common.legend = T)
  sr_eda <- ggpubr::annotate_figure(sr_eda, top = text_grob("Top 5 Male Athletes by Still Ring Scores in
sr_eda
```