SUPERGirls Participation in SGSF's Events

SUPERGirls SHINE Foundation

2023-04-26

Our goals of interest in this project were to analyze and visualize the total participation of SGSF Mentees by their names in SGSF's past events in order to know who is the number 1 mentee, with the highest number of participations to be qualified for scholarship.

```
library(tidyverse)
library(RColorBrewer)
library(plotly)
library(plyr)
library(gt)
library(stringr)
library(stringi)
library(mapquestr)
library(leaflet)
data<- readr::read_csv("Membership Participation 1.csv")
```

Here is a glimpse of what we will be working with:

```
colnames(data)
```

```
##  [1] "Last Name"       "First Name"      "School"          "Grade"
##  [5] "Email Address"   "Cell Number"     "Status Updates"  "3/20/2023"
##  [9] "3/19/2023"       "3/4/2023"        "3/1/2023"        "2/18/2023"
## [13] "2/11/2023"       "1/7/2023"        "12/19/2023"      "12/7/2022"
## [17] "12/5/2022"       "11/5/2022"       "11/3/2022"       "9/24/2022"
## [21] "9/23/2022"       "council session"
```

The dates refers to SGSF's events. For confidentiality, the dataset won't be shown.

Prior to counting the total participation of each member, the data needs some preprocessing steps:

1. Members' Last Name and Fist Name combination in one column.
2. Replacing the missing values with "not present".

```
data$Name<- paste(data$`Last Name`,',',data$`First Name`)
data<- data[c(8:23)]
data<-data %>% replace(is.na(.), "not present")
```

Now, our dataset is ready for the countings in numbers and in percentages.

Adding the counting columns to our data, below are all the dataset's variables. Our variables of interest for the visualizations are the following:

1. "Name" : The Last Name, First Name.
2. "Presence_counting" : The counting of attended events for each member.
3. "Percentage" : The percentage of events attended out of the total number of events for each member.

```
data$Presence_counting <- apply(data, 1, function(x) length(which(x=="present")))
data<-  mutate(data,Percentage= round(Presence_counting*100/15))
```

Members Participation in SGSF's Events in %

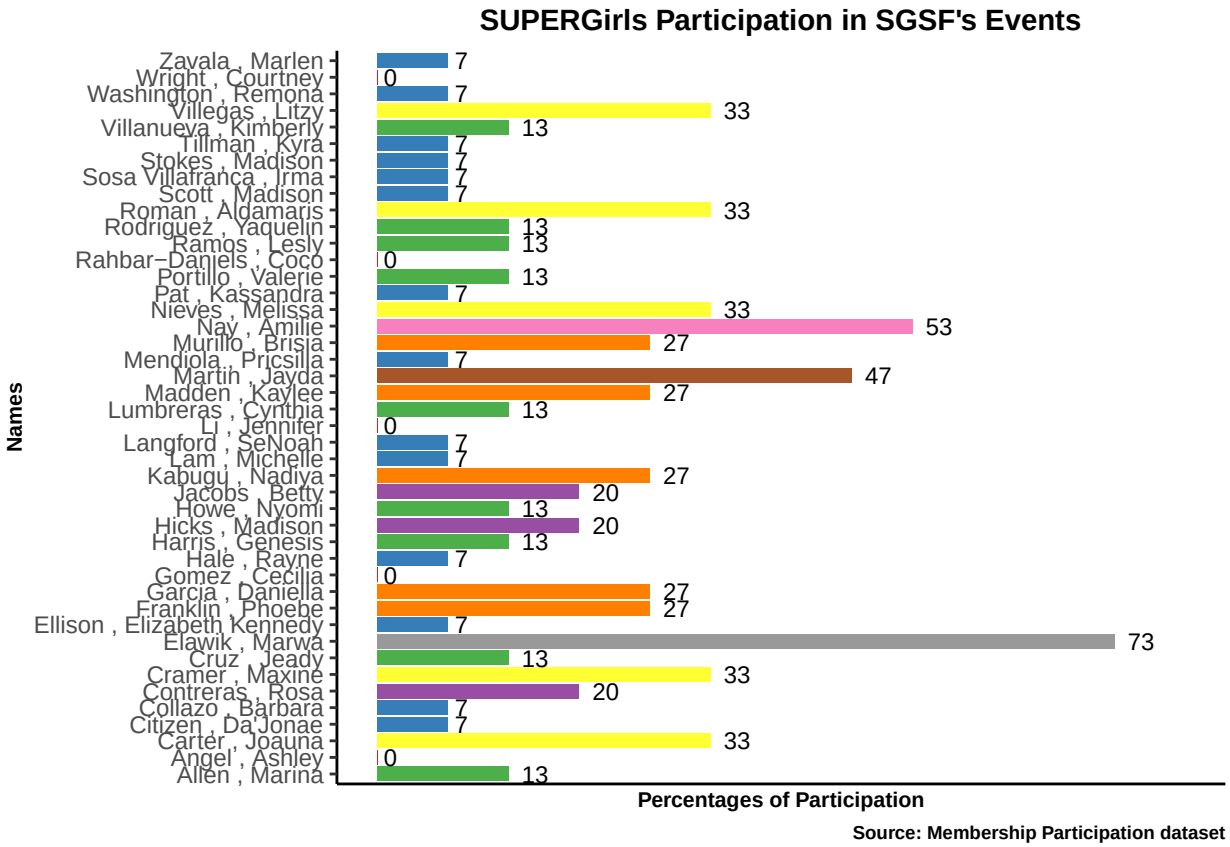
```
colourCount = length(unique(data$Percentage))
getPalette = colorRampPalette(brewer.pal(colourCount, "Set1"))

p1<-ggplot(data,  aes(x= data$Name, y=data$Percentage, fill= factor(data$Percentage)))+

  geom_bar(stat = 'identity',width=0.9)+
  ggtitle("SUPERGirls Participation in SGSF's Events") +
  theme_classic()+
  coord_flip()+
  geom_text(aes(label=Percentage),size = 3, hjust = -0.5,position = position_stack(vjust = 1),
    inherit.aes = TRUE)+
    labs(y="Percentages of Participation",x="Names", caption = "Source: Membership Participation dataset
  scale_y_continuous(labels = NULL, breaks = NULL,limits = c(0,80))+

  theme(legend.position = "none",
       title = element_text(size = 9, face = "bold"),
        plot.title = element_text(hjust = 0.5),
        axis.title.x = element_text(size = 8, face = "bold"),
        axis.title.y = element_text(size = 8, face = "bold"),
        axis.ticks.x =  element_blank(),

        panel.grid.minor = element_blank())
p1 +scale_fill_manual(values =getPalette(colourCount))
```



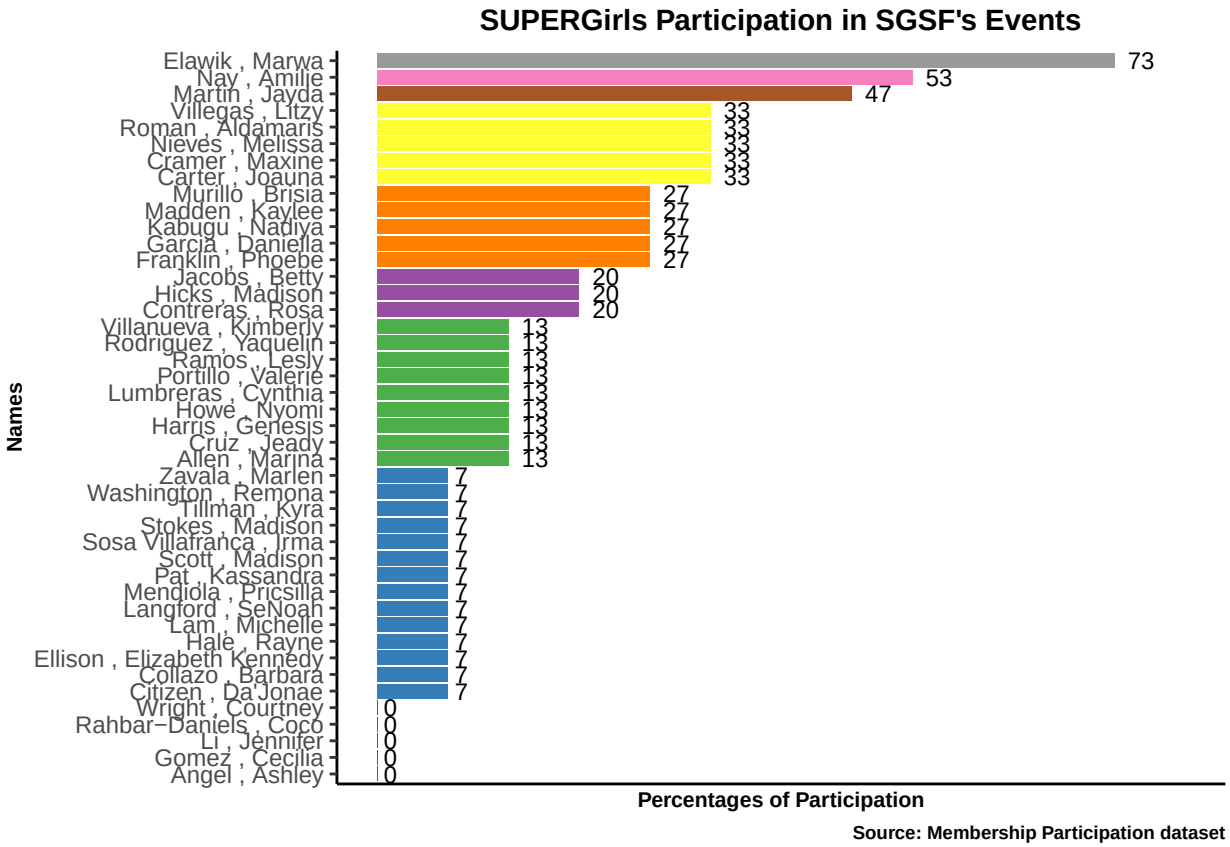
Members Participation in SGSF's Events in % and Ascending order

```
p2<-ggplot(data,  aes(x= reorder(data$Name, +data$Percentage), y=data$Percentage, fill= factor(data$Per

  geom_bar(stat = 'identity',width=0.9)+
  ggtitle("SUPERGirls Participation in SGSF's Events") +
  theme_classic()+
  coord_flip()+
  geom_text(aes(label=Percentage),size = 3, hjust = -0.5,position = position_stack(vjust = 1),
    inherit.aes = TRUE)+
    labs(y="Percentages of Participation",x="Names", caption = "Source: Membership Participation datase
  scale_y_continuous(labels = NULL, breaks = NULL,limits = c(0,80))+

  theme(legend.position = "none",
       title = element_text(size = 9, face = "bold"),
        plot.title = element_text(hjust = 0.5),
        axis.title.x = element_text(size = 8, face = "bold"),
        axis.title.y = element_text(size = 8, face = "bold"),
        axis.ticks.x =  element_blank(),

        panel.grid.minor = element_blank())
p2 +scale_fill_manual(values =getPalette(colourCount))
```



Members Participation in SGSF's Events in Numbers

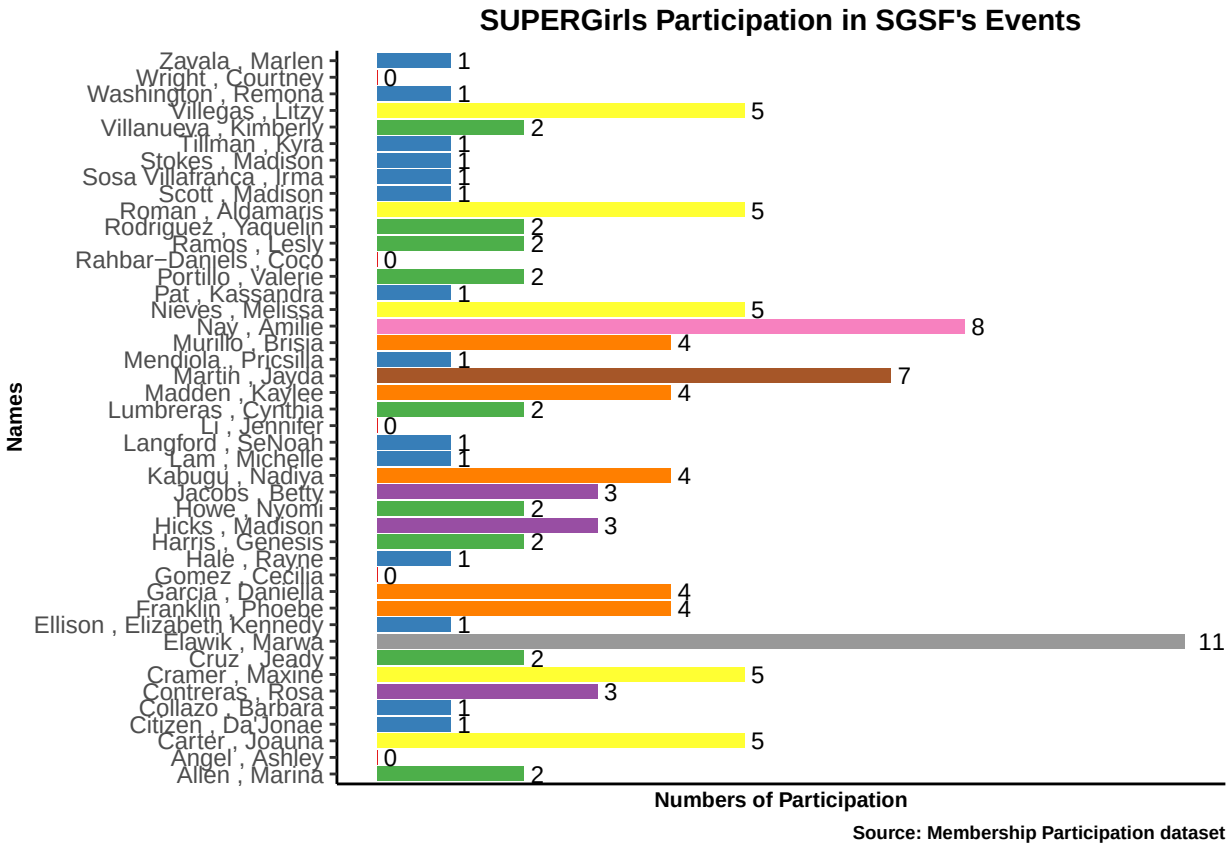
```
p3<-ggplot(data,  aes(x= Name,y= Presence_counting, fill= factor(data$Presence_counting)))+

  geom_col(stat = 'identity')+
  ggtitle("SUPERGirls Participation in SGSF's Events") +
  theme_classic()+
  coord_flip()+
  geom_text(aes(label=Presence_counting),size = 3, hjust = -0.5,position = position_stack(vjust = 1),
    inherit.aes = TRUE)+
    labs(y="Numbers of Participation",x="Names", caption = "Source: Membership Participation dataset")+

  scale_y_continuous(labels = NULL, breaks = NULL)+

  theme(legend.position = "none",
       title = element_text(size = 9, face = "bold"),
        plot.title = element_text(hjust = 0.5),
        axis.title.x = element_text(size = 8, face = "bold"),
        axis.title.y = element_text(size = 8, face = "bold"),
        axis.ticks.x =  element_blank(),

        panel.grid.minor = element_blank())
p3 +scale_fill_manual(values =getPalette(colourCount))
```



Members Participation in SGSF's Events in Numbers and Ascending order

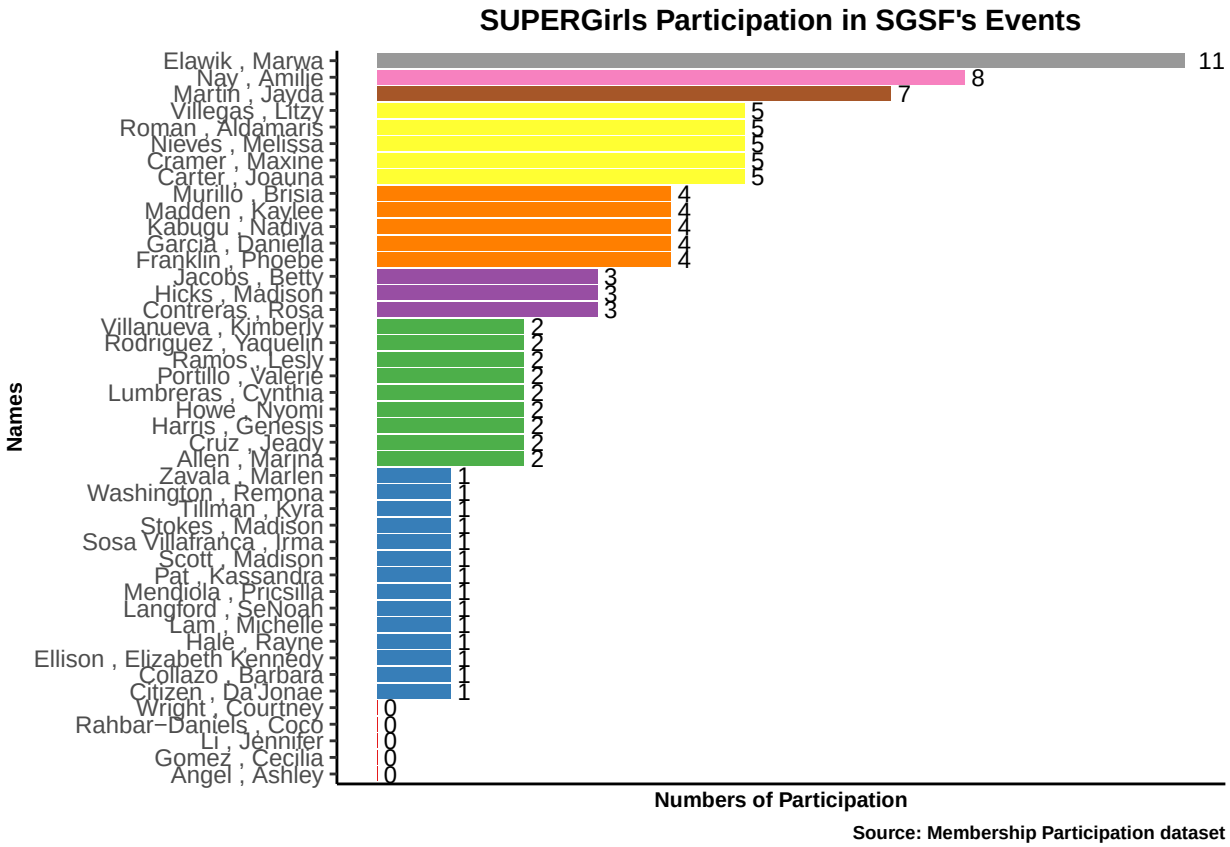
```
p4<-ggplot(data,  aes(x= reorder(Name, + Presence_counting),y= Presence_counting, fill= factor(data$Pres

  geom_col(stat = 'identity')+
  ggtitle("SUPERGirls Participation in SGSF's Events") +
  theme_classic()+
  coord_flip()+
  geom_text(aes(label=Presence_counting),size = 3, hjust = -0.5,position = position_stack(vjust = 1),
    inherit.aes = TRUE)+
    labs(y="Numbers of Participation",x="Names", caption = "Source: Membership Participation dataset")+

  scale_y_continuous(labels = NULL, breaks = NULL)+

  theme(legend.position = "none",
       title = element_text(size = 9, face = "bold"),
        plot.title = element_text(hjust = 0.5),
        axis.title.x = element_text(size = 8, face = "bold"),
        axis.title.y = element_text(size = 8, face = "bold"),
        axis.ticks.x =  element_blank(),

        panel.grid.minor = element_blank())
p4 +scale_fill_manual(values =getPalette(colourCount))
```



Observation:

- Marwa El Awik is the SGSF member who attended the most compared to other members: 11 events out of 16 which is 73% of the events that she was invited to.
- Nay Amilie is the second SGSF member who attended the most compared to other members: 8 events out of 16 which is 53% of the events that she was invited to.