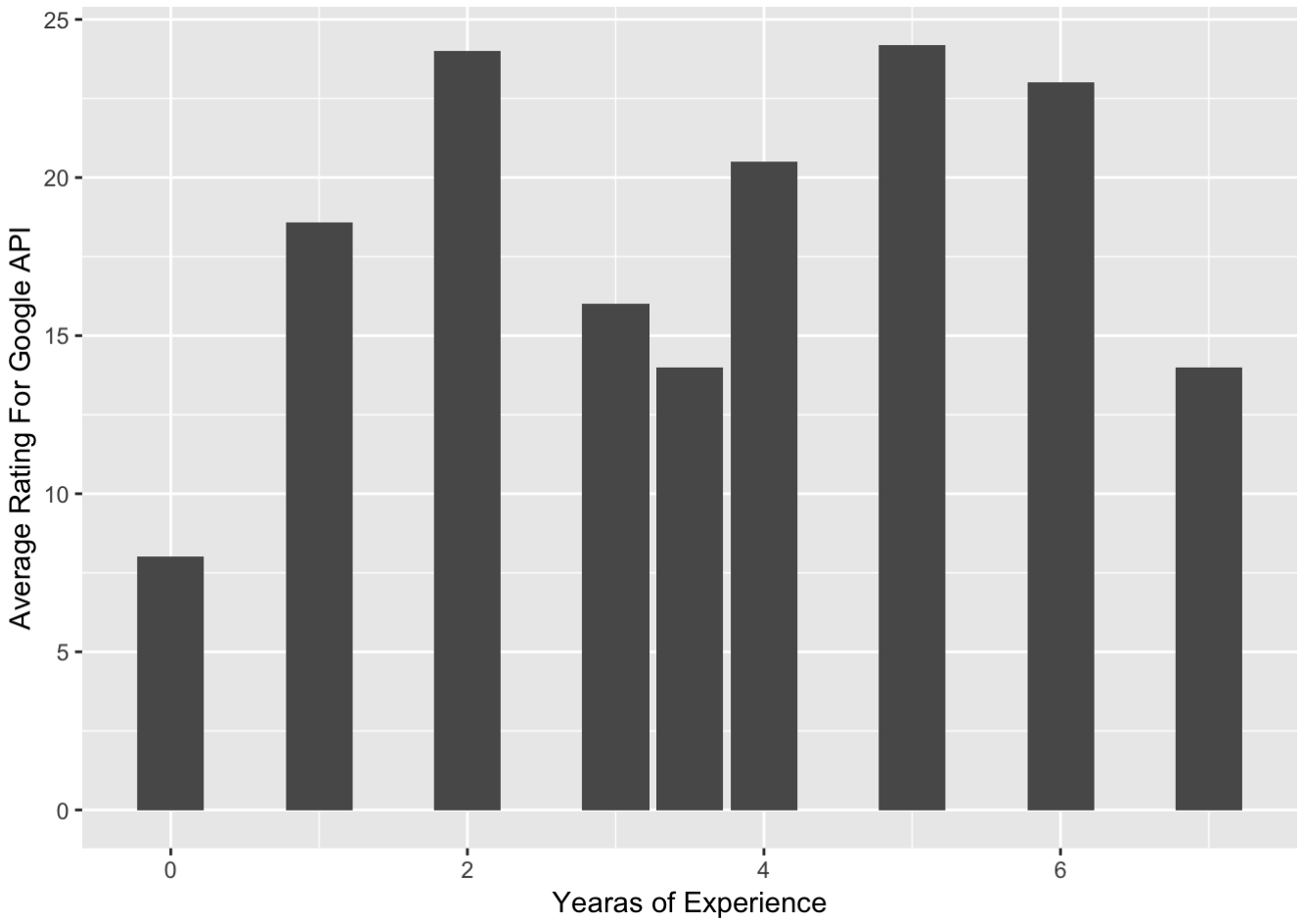
Report

API Results Exploration

Exploring general trends in API usage

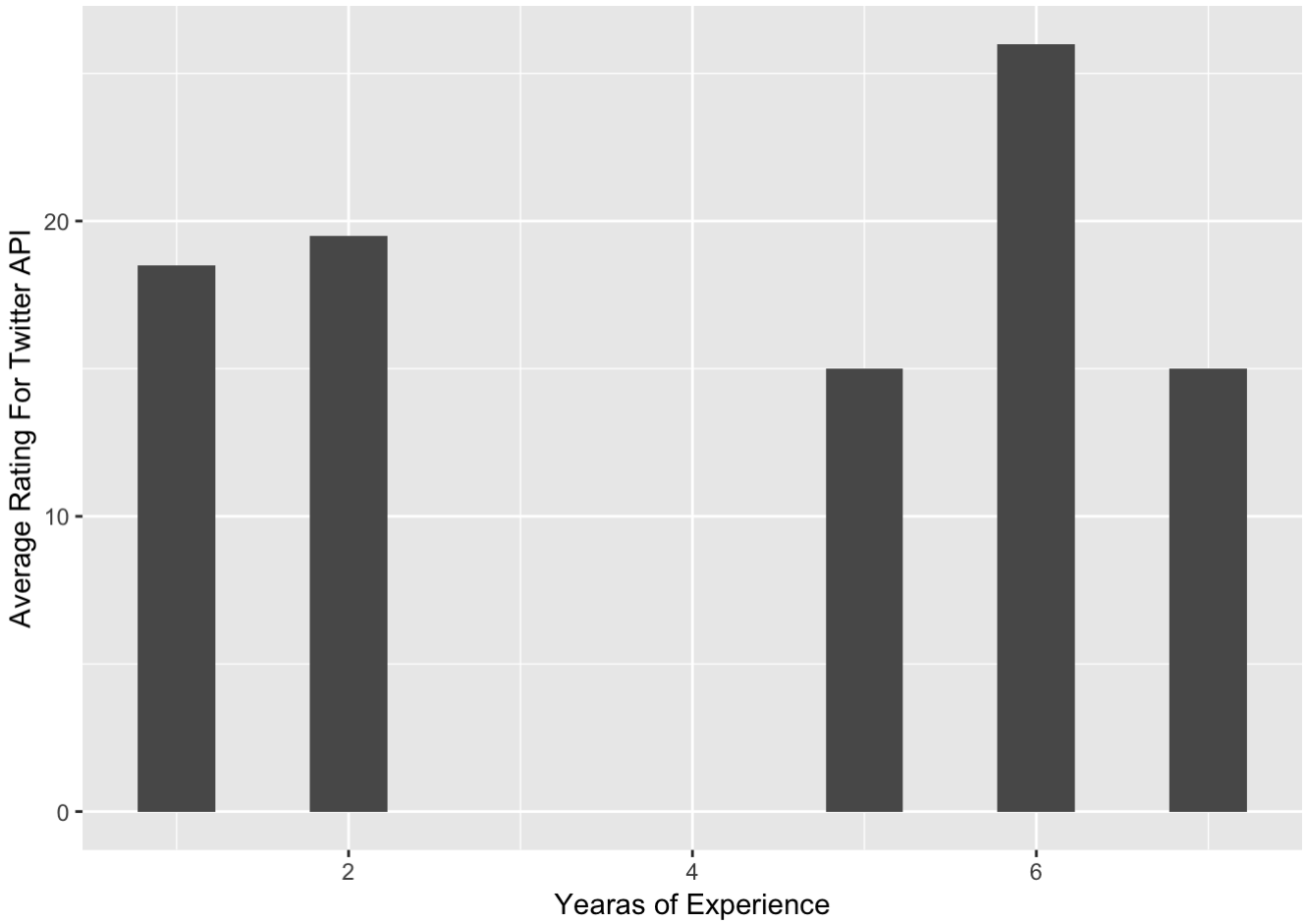
```
data%>%group_by(YearsExperience)%>%
  summarise(average_rating = mean(GoogleMapsSimple+GoogleMapsDoc+GoogleMapsQuality+Go
ogleMapsResponse+GoogleMapsAccess+GoogleMapsBackwardCompat+GoogleMapsSecured+GoogleMa
psSatisfaction,na.rm = T))%>%
  ggplot(aes(x=YearsExperience, y=average_rating)) +
  geom_bar(stat="identity") + xlab("Yearas of Experience")+
  ylab("Average Rating For Google API")
```

```
## Warning: Removed 2 rows containing missing values (position_stack).
```



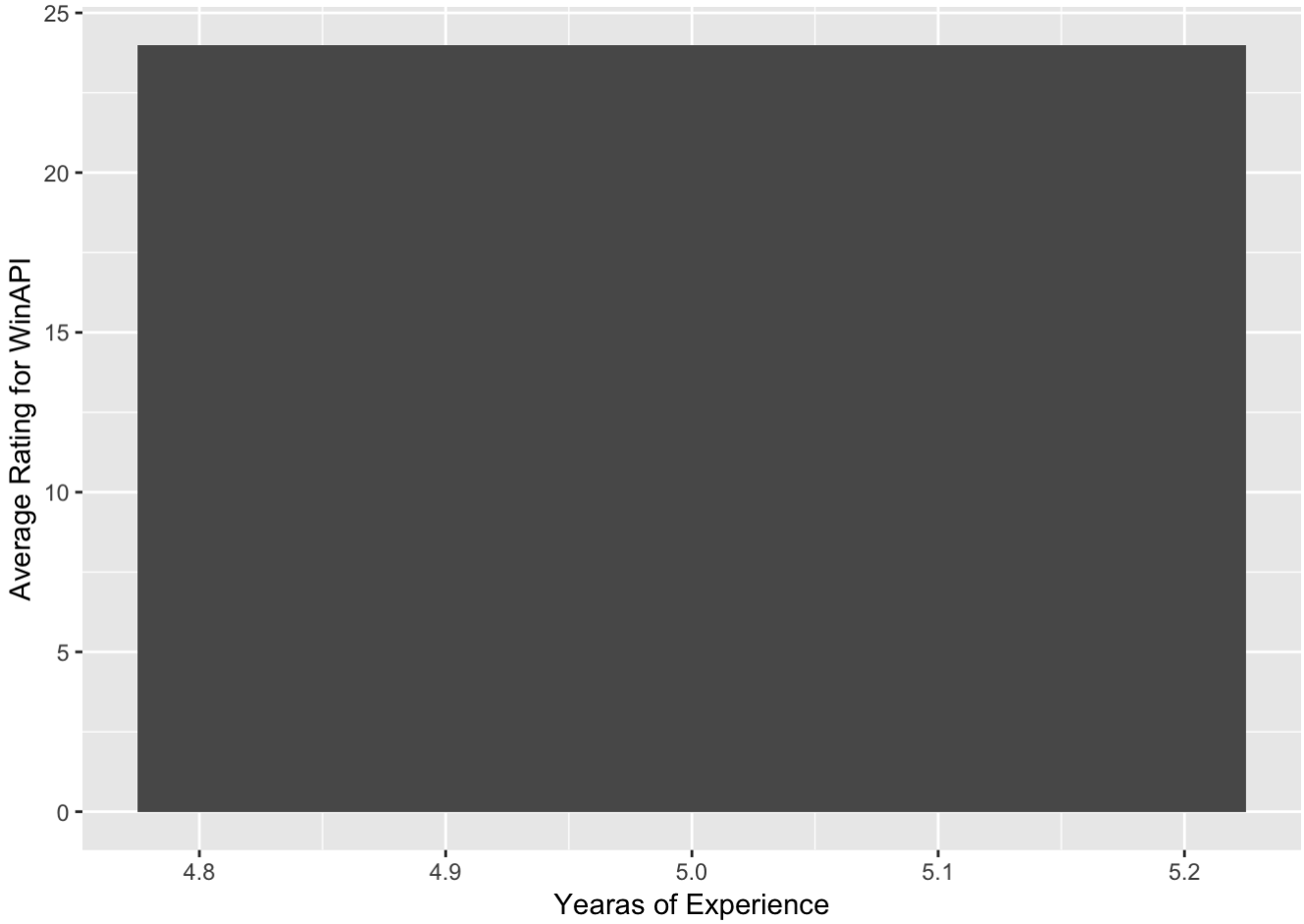

```
data%>%group_by(YearsExperience)%>%
  summarise(average_rating = mean(TwitterSimple+TwitterDoc+TwitterQuality+TwitterResp
onse+TwitterAccess+TwitterBackwardCompat+TwitterSecured+TwitterSatisfaction,na.rm = T
))%>%
  ggplot(aes(x=YearsExperience, y=average_rating)) +
  geom_bar(stat="identity") + xlab("Yearas of Experience")+
  ylab("Average Rating For Twitter API")
```

```
## Warning: Removed 6 rows containing missing values (position_stack).
```



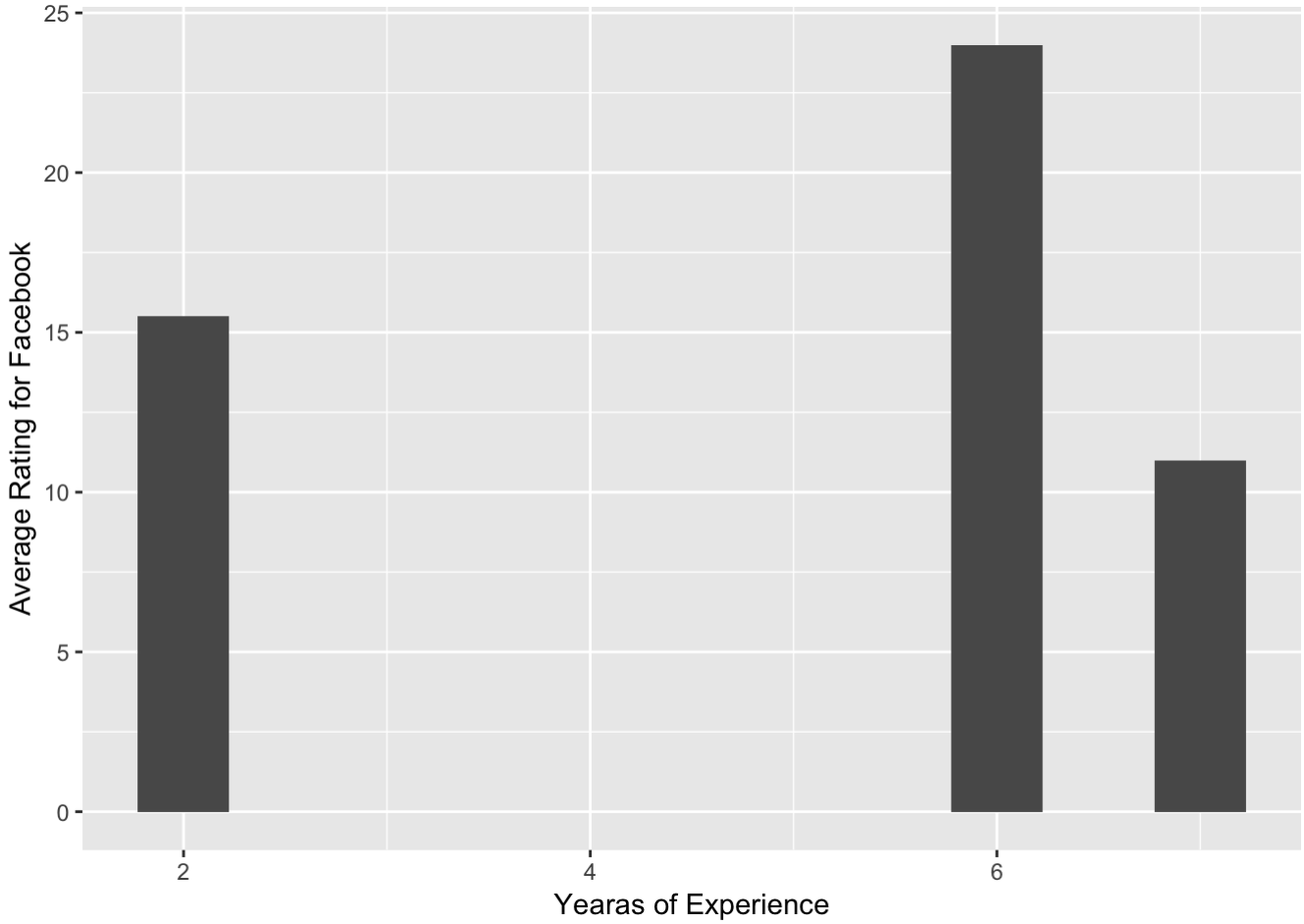

```
data%>%group_by(YearsExperience)%>%
  summarise(average_rating = mean(WinAPISimple+WinAPIDoc+WinAPIQuality+WinAPIResponse
+WinAPIAccess+WinAPIBackwardCompat+WinAPISecured+WinAPISatisfaction,na.rm = T))%>%
  ggplot(aes(x=YearsExperience, y=average_rating)) +
  geom_bar(stat="identity") + xlab("Yearas of Experience")+
  ylab("Average Rating for WinAPI")
```

```
## Warning: Removed 10 rows containing missing values (position_stack).
```




```
data%>%group_by(YearsExperience)%>%
  summarise(average_rating = mean(FacebookSimple+FacebookDoc+FacebookQuality+Facebook
Response+FacebookAccess+FacebookBackwardCompat+FacebookSecured+FacebookSatisfaction,n
a.rm = T))%>%
  ggplot(aes(x=YearsExperience, y=average_rating)) +
  geom_bar(stat="identity") + xlab("Yearas of Experience")+
  ylab("Average Rating for Facebook")
```

```
## Warning: Removed 8 rows containing missing values (position_stack).
```



Google API Deep Analysis

Google Maps further Dig Down analysis

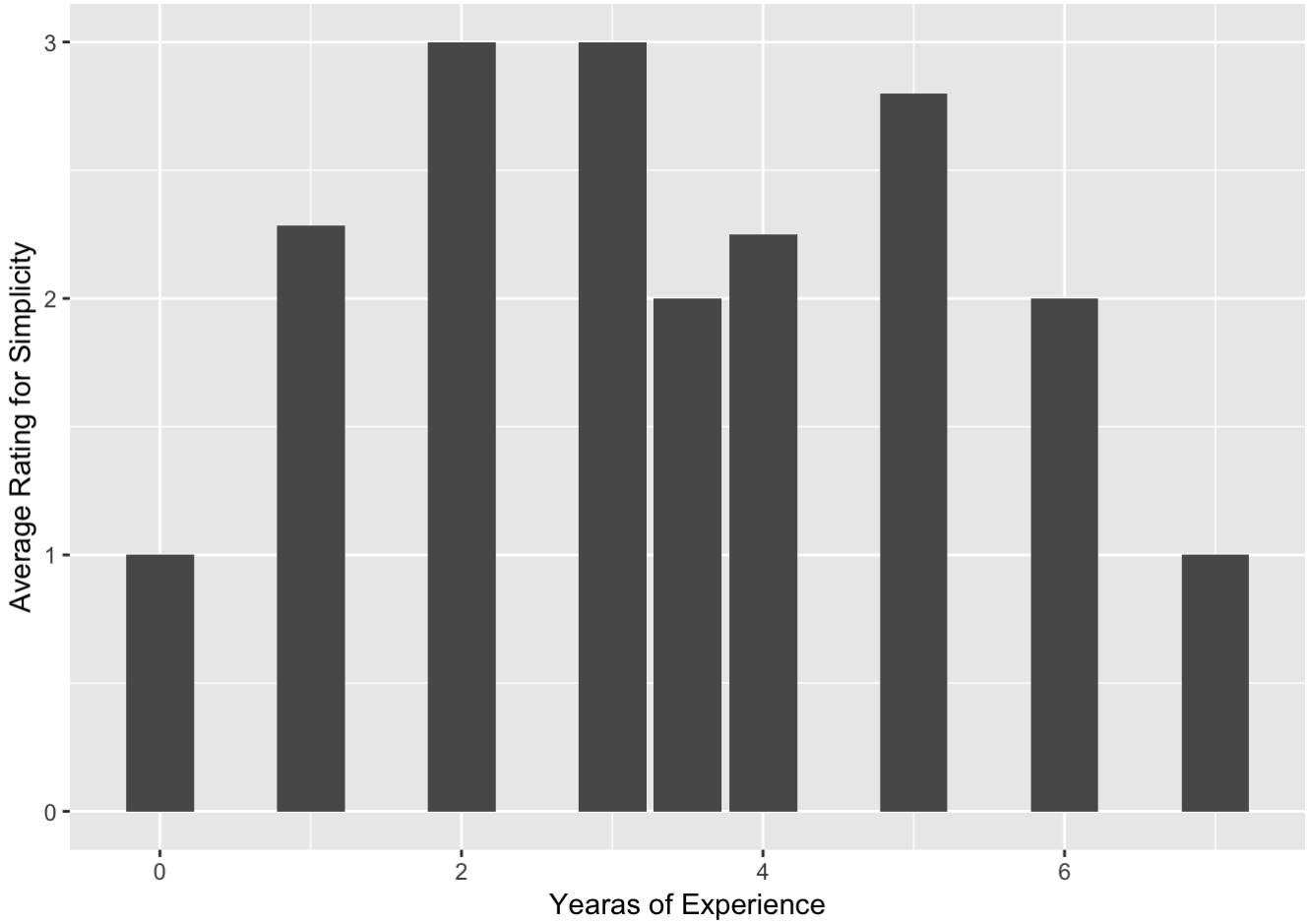
As most of the data is only present for Google maps survey

TODO

Try correlating it with changes in API versions with the years in which changes are made

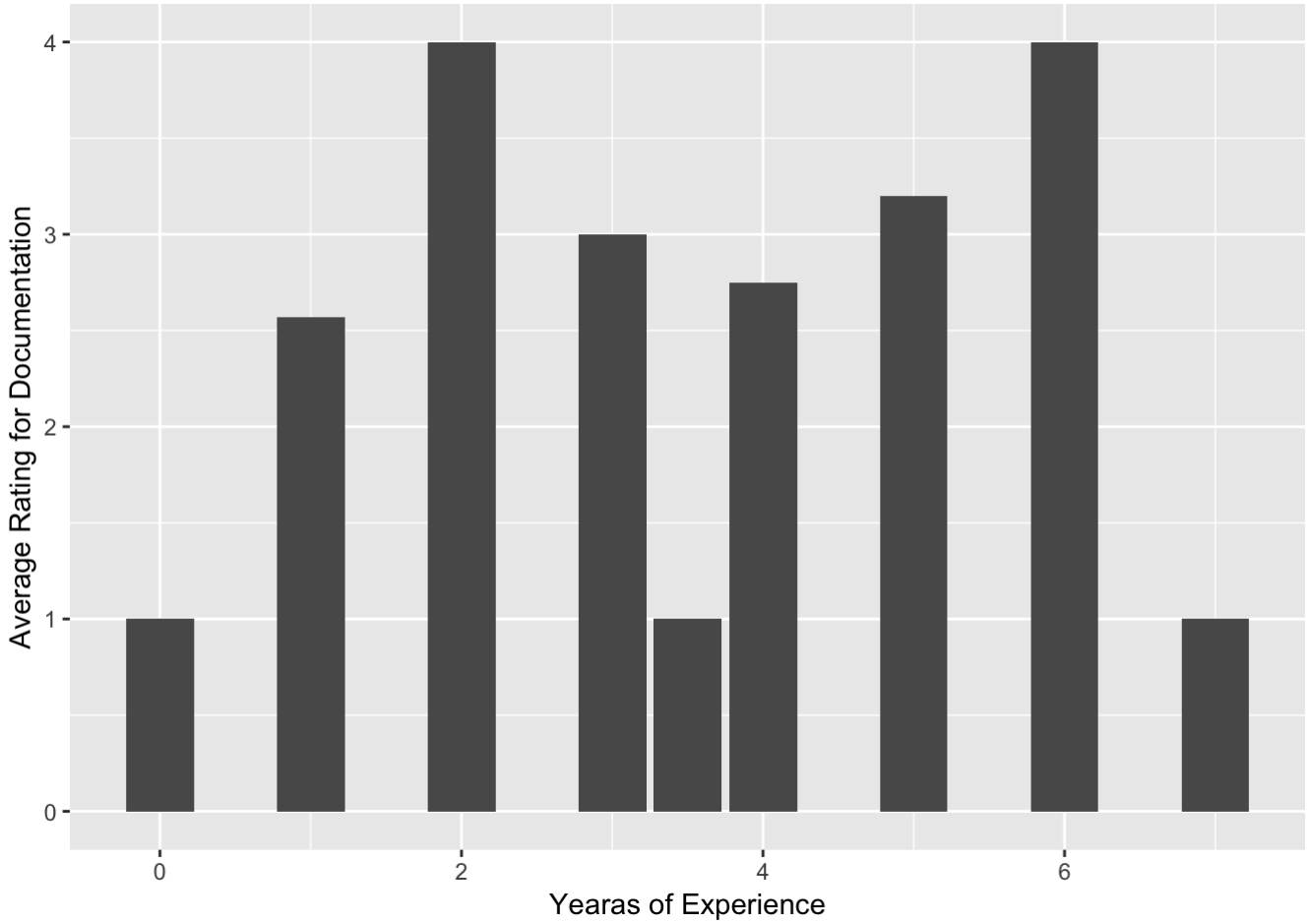
```
data%>%group_by(YearsExperience)%>%
  summarise(average_rating = mean(GoogleMapsSimple,na.rm = T))%>%
  ggplot(aes(x=YearsExperience, y=average_rating)) +
  geom_bar(stat="identity") + xlab("Yearas of Experience")+
  ylab("Average Rating for Simplicity")
```

```
## Warning: Removed 2 rows containing missing values (position_stack).
```



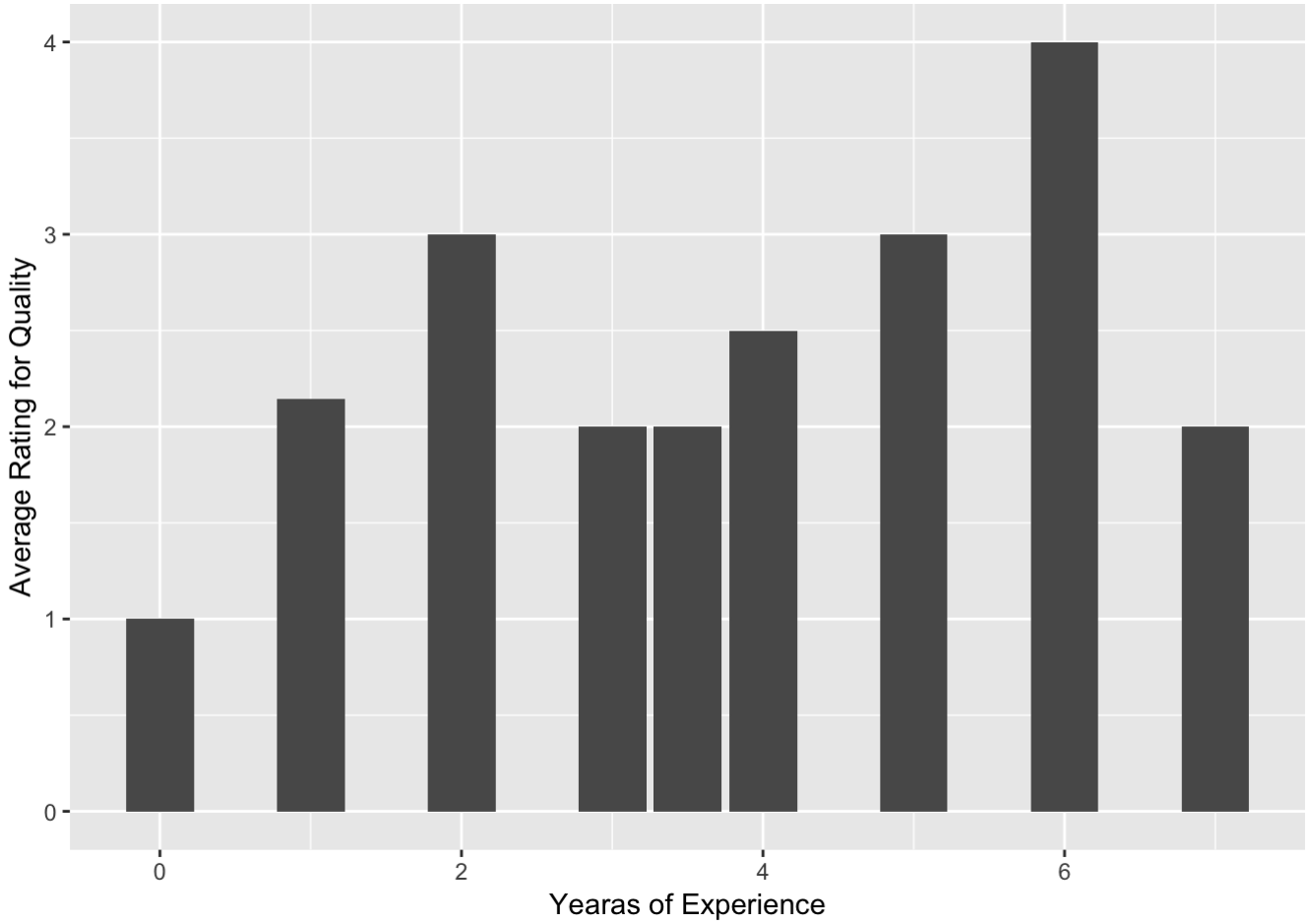

```
data%>%group_by(YearsExperience)%>%
  summarise(average_rating = mean(GoogleMapsDoc,na.rm = T))%>%
  ggplot(aes(x=YearsExperience, y=average_rating)) +
  geom_bar(stat="identity") + xlab("Yearas of Experience")+
  ylab("Average Rating for Documentation")
```

```
## Warning: Removed 2 rows containing missing values (position_stack).
```



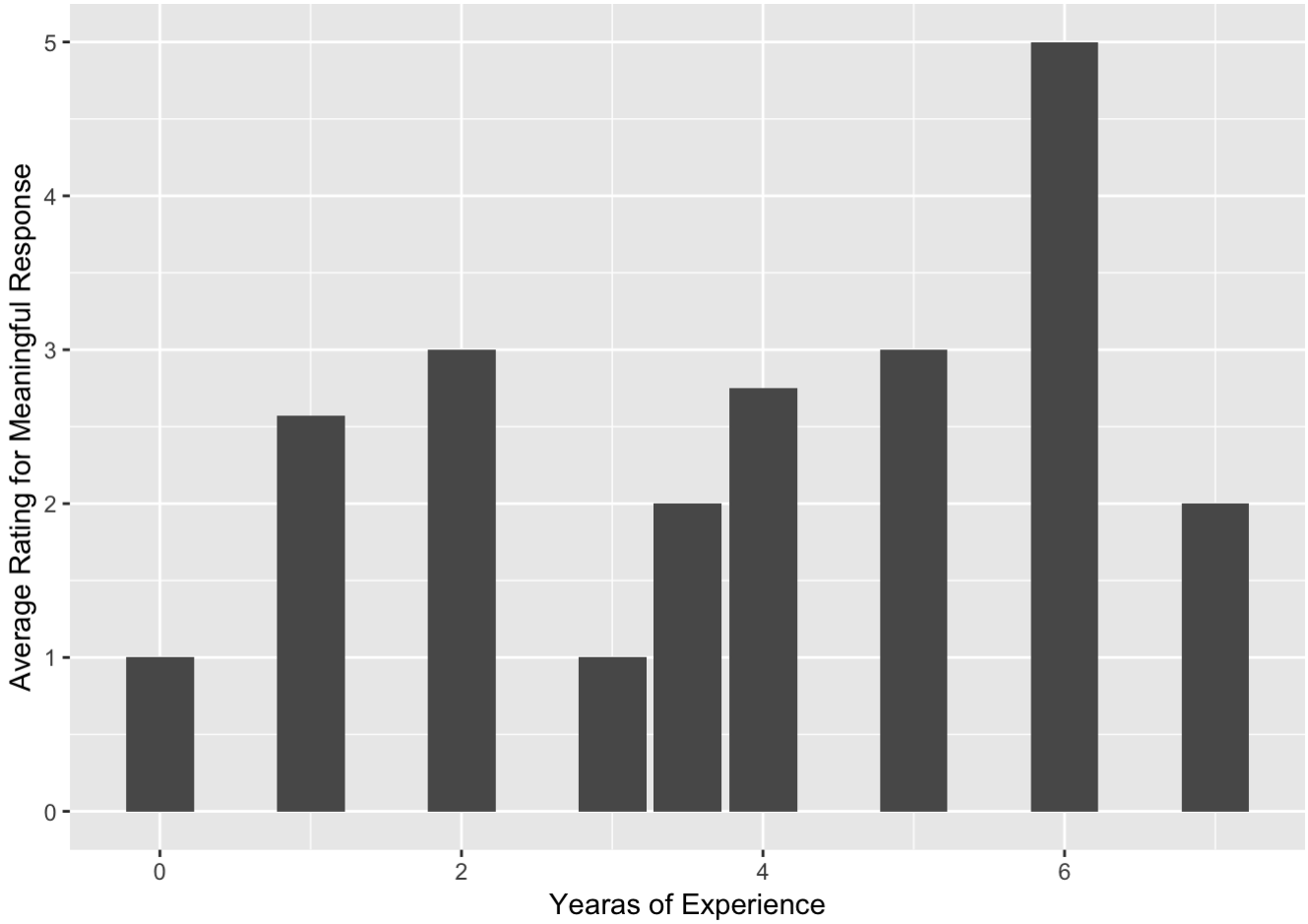

```
data%>%group_by(YearsExperience)%>%
  summarise(average_rating = mean(GoogleMapsQuality,na.rm = T))%>%
  ggplot(aes(x=YearsExperience, y=average_rating)) +
  geom_bar(stat="identity") + xlab("Yearas of Experience")+
  ylab("Average Rating for Quality")
```

```
## Warning: Removed 2 rows containing missing values (position_stack).
```



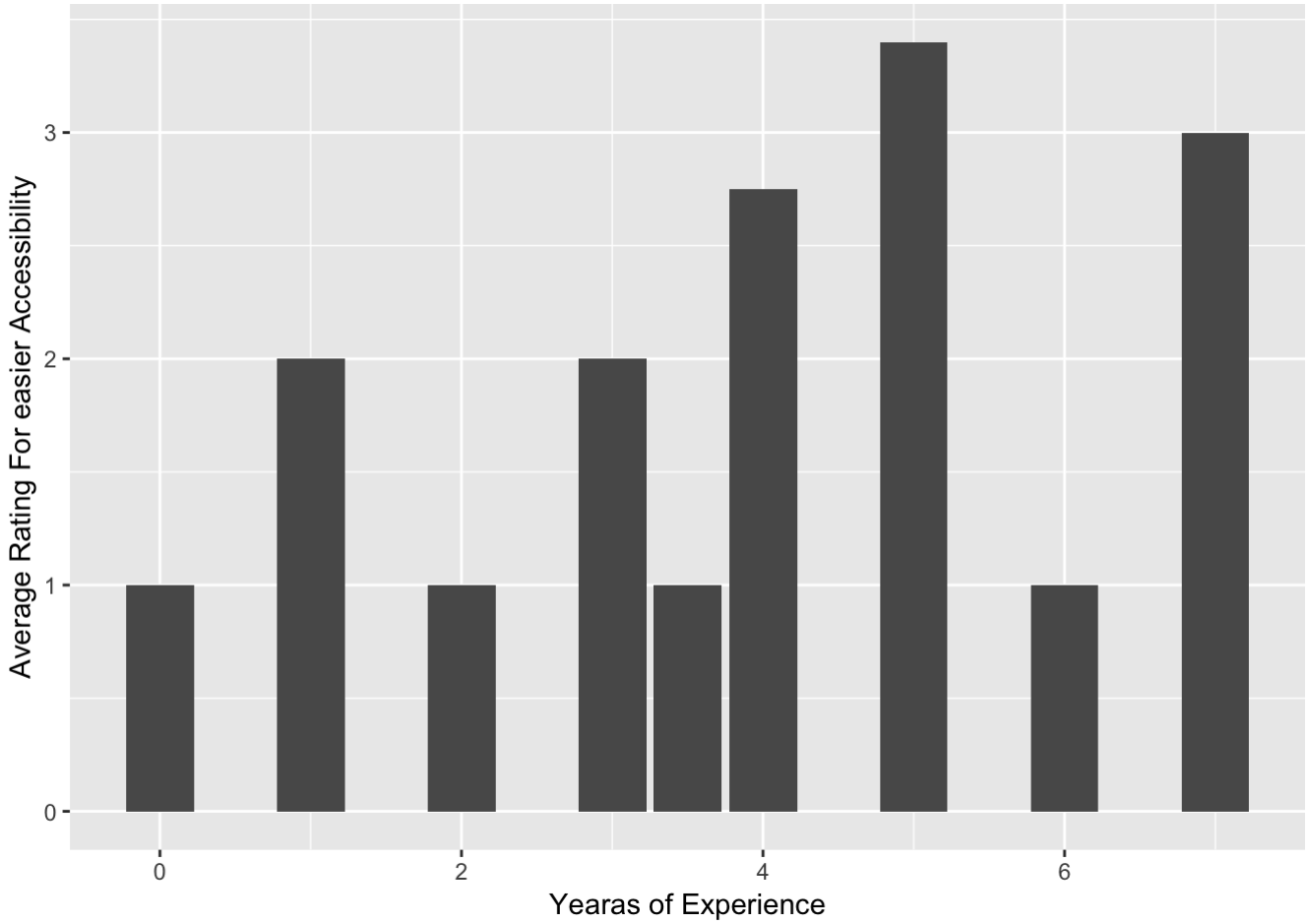

```
data%>%group_by(YearsExperience)%>%
  summarise(average_rating = mean(GoogleMapsResponse,na.rm = T))%>%
  ggplot(aes(x=YearsExperience, y=average_rating)) +
  geom_bar(stat="identity") + xlab("Yearas of Experience")+
  ylab("Average Rating for Meaningful Response")
```

```
## Warning: Removed 2 rows containing missing values (position_stack).
```



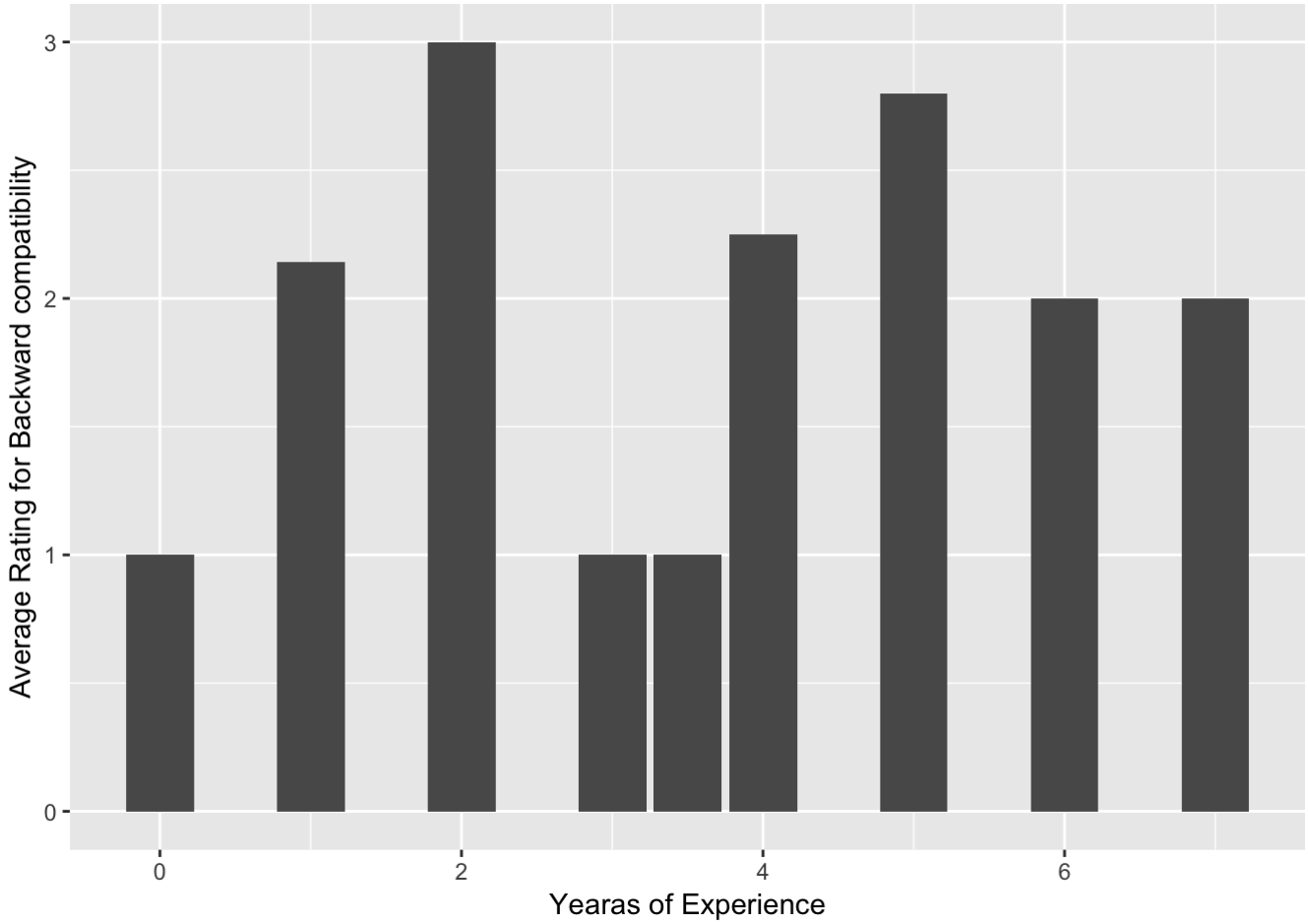

```
data%>%group_by(YearsExperience)%>%
  summarise(average_rating = mean(GoogleMapsAccess,na.rm = T))%>%
  ggplot(aes(x=YearsExperience, y=average_rating)) +
  geom_bar(stat="identity") + xlab("Yearas of Experience")+
  ylab("Average Rating For easier Accessibility")
```

```
## Warning: Removed 2 rows containing missing values (position_stack).
```



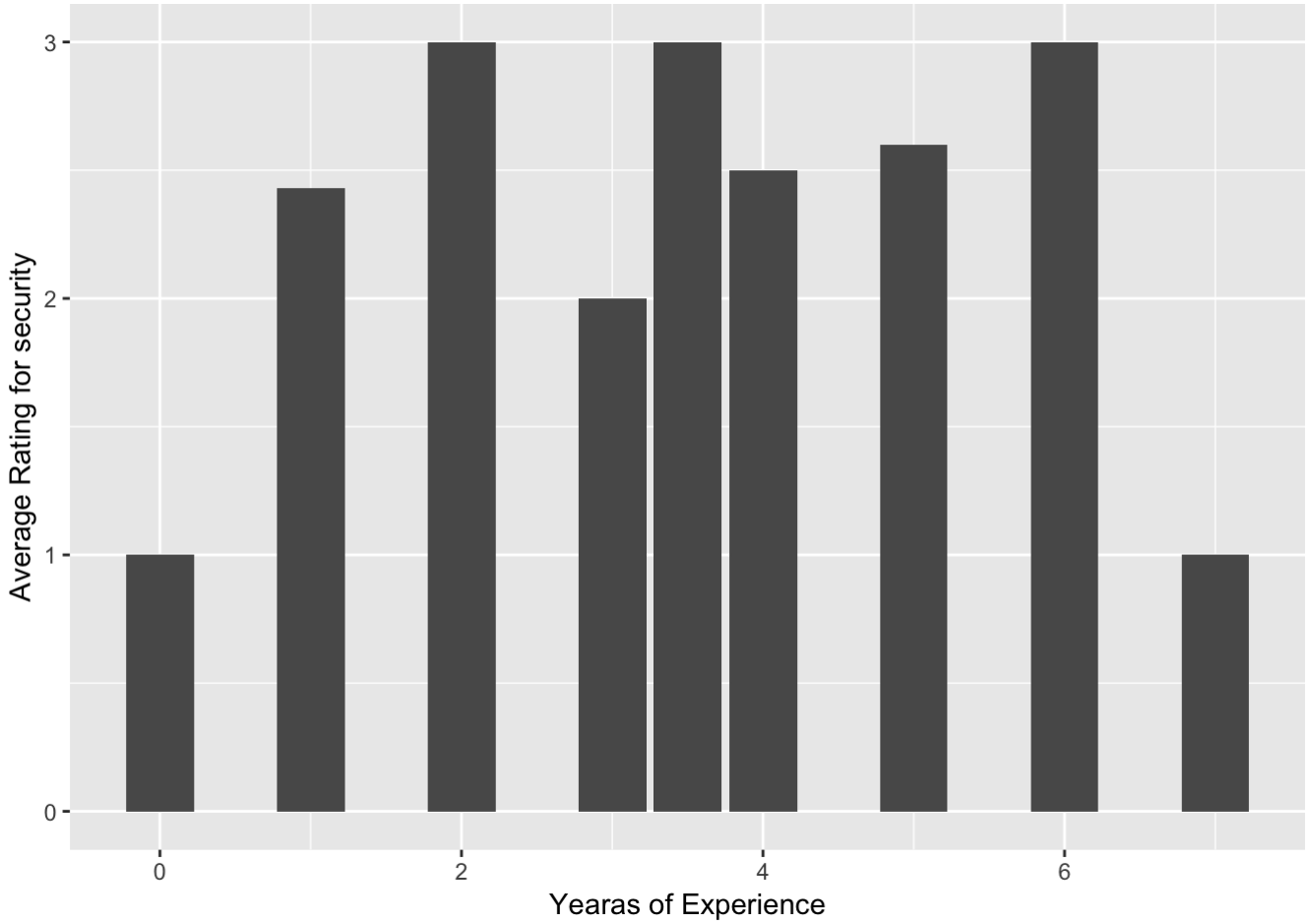

```
data%>%group_by(YearsExperience)%>%
  summarise(average_rating = mean(GoogleMapsBackwardCompat,na.rm = T))%>%
  ggplot(aes(x=YearsExperience, y=average_rating)) +
  geom_bar(stat="identity") + xlab("Yearas of Experience")+
  ylab("Average Rating for Backward compatibility")
```

```
## Warning: Removed 2 rows containing missing values (position_stack).
```



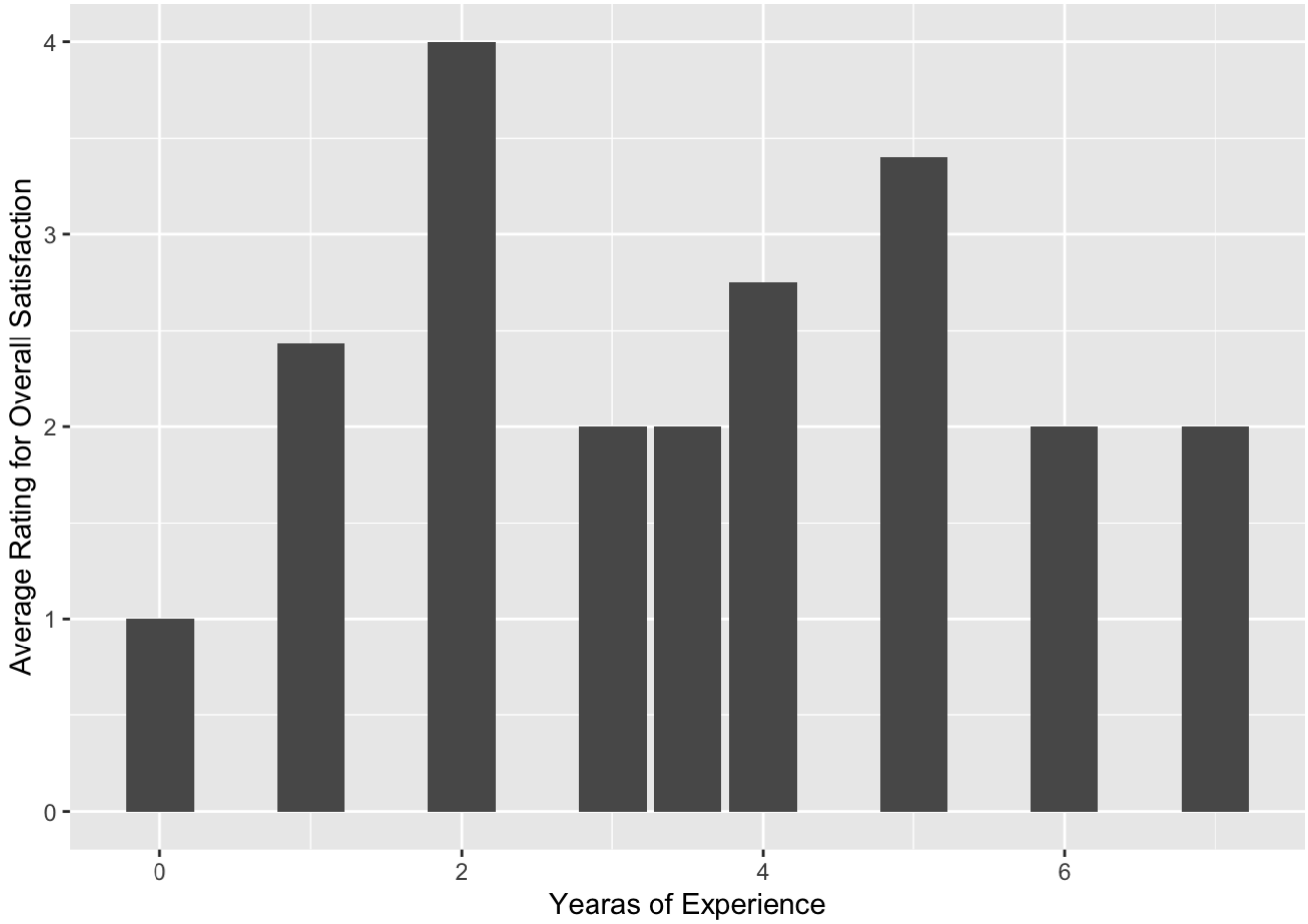

```
data%>%group_by(YearsExperience)%>%
  summarise(average_rating = mean(GoogleMapsSecured,na.rm = T))%>%
  ggplot(aes(x=YearsExperience, y=average_rating)) +
  geom_bar(stat="identity") + xlab("Yearas of Experience")+
  ylab("Average Rating for security")
```

```
## Warning: Removed 2 rows containing missing values (position_stack).
```




```
data%>%group_by(YearsExperience)%>%
  summarise(average_rating = mean(GoogleMapsSatisfaction,na.rm = T))%>%
  ggplot(aes(x=YearsExperience, y=average_rating)) +
  geom_bar(stat="identity") + xlab("Yearas of Experience")+
  ylab("Average Rating for Overall Satisfaction")
```

```
## Warning: Removed 2 rows containing missing values (position_stack).
```

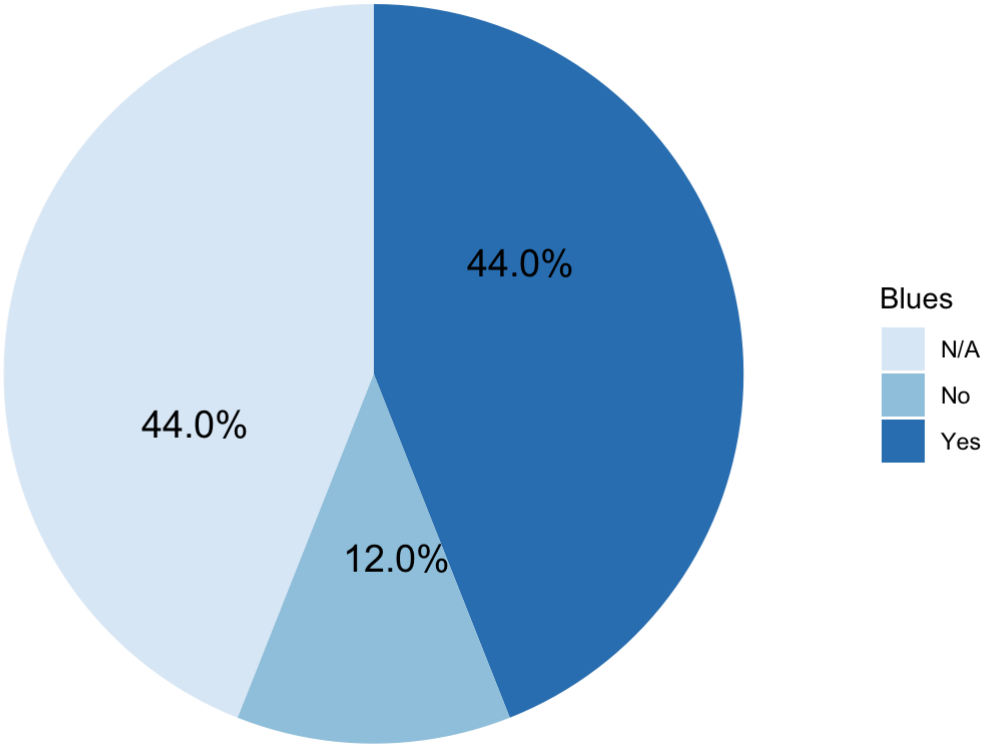


Percentage distribution for the Google Maps API Usage

Google Maps usage stats

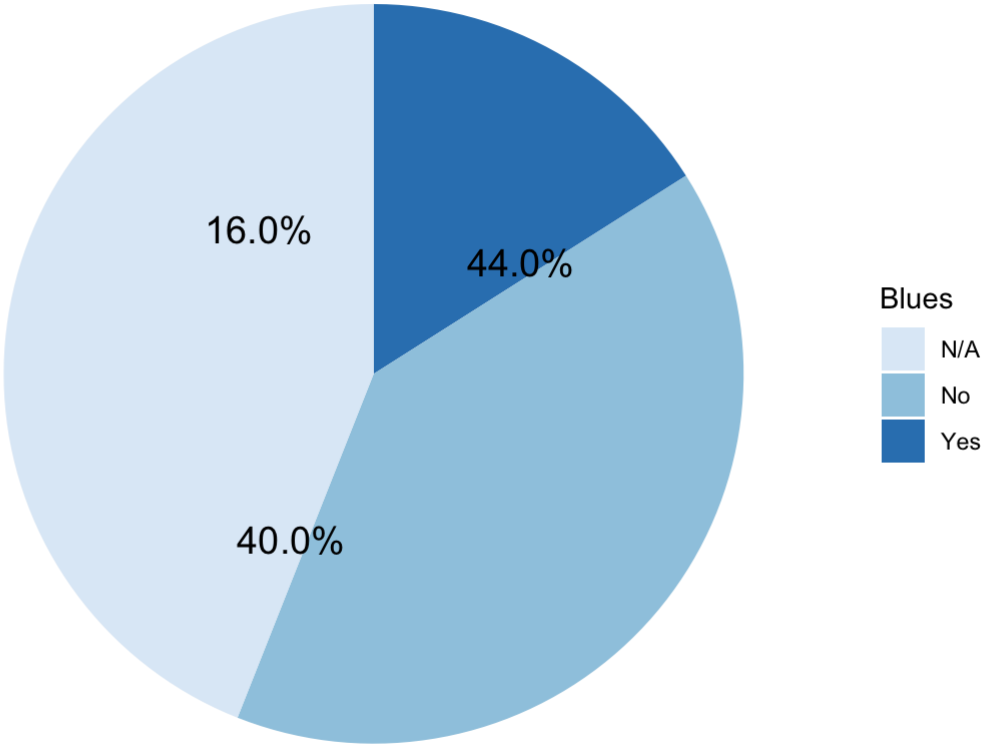
```
blank_theme <- theme_minimal()+
  theme(
    axis.title.x = element_blank(),
    axis.title.y = element_blank(),
    panel.border = element_blank(),
    panel.grid=element_blank(),
    axis.ticks = element_blank(),
    plot.title=element_text(size=14, face="bold")
  )

data%>%group_by(GoogleMaps)%>%summarise(APIUsage = n()/nrow(data) * 100)%>%
ggplot(aes(x="", y=APIUsage, fill=GoogleMaps))+
  geom_bar(width = 1, stat = "identity")+ coord_polar("y", start=0)+  scale_fill_brew
er("Blues") +  blank_theme +
  theme(axis.text.x=element_blank()) +
  geom_text(aes(y = APIUsage/3 + c(0, cumsum(APIUsage)[-length(APIUsage)]),
                label = percent(APIUsage/100)), size=5)
```



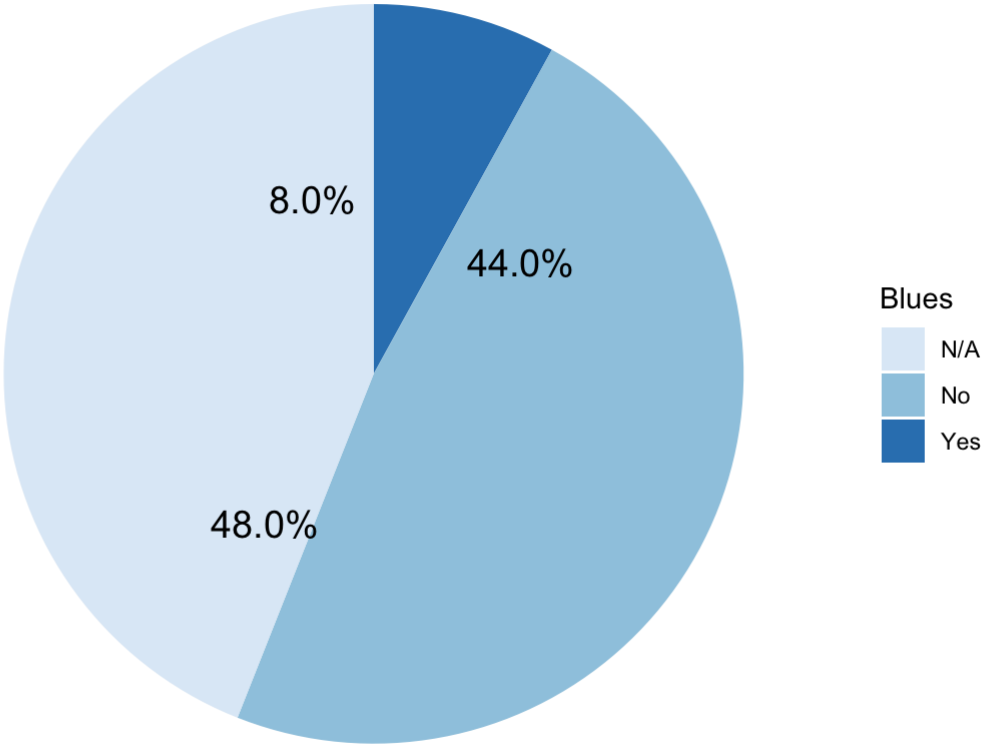
Twitter Usage stats

```
data%>%group_by(Twitter)%>%summarise(APIUsage = n()/nrow(data) * 100)%>%
  ggplot(aes(x="", y=APIUsage, fill=Twitter))+
  geom_bar(width = 1, stat = "identity")+ coord_polar("y", start=0)+  scale_fill_brew
er("Blues") +  blank_theme +
  theme(axis.text.x=element_blank()) +
  geom_text(aes(y = APIUsage/3 + c(0, cumsum(APIUsage)[-length(APIUsage)]),
                label = percent(APIUsage/100)), size=5)
```



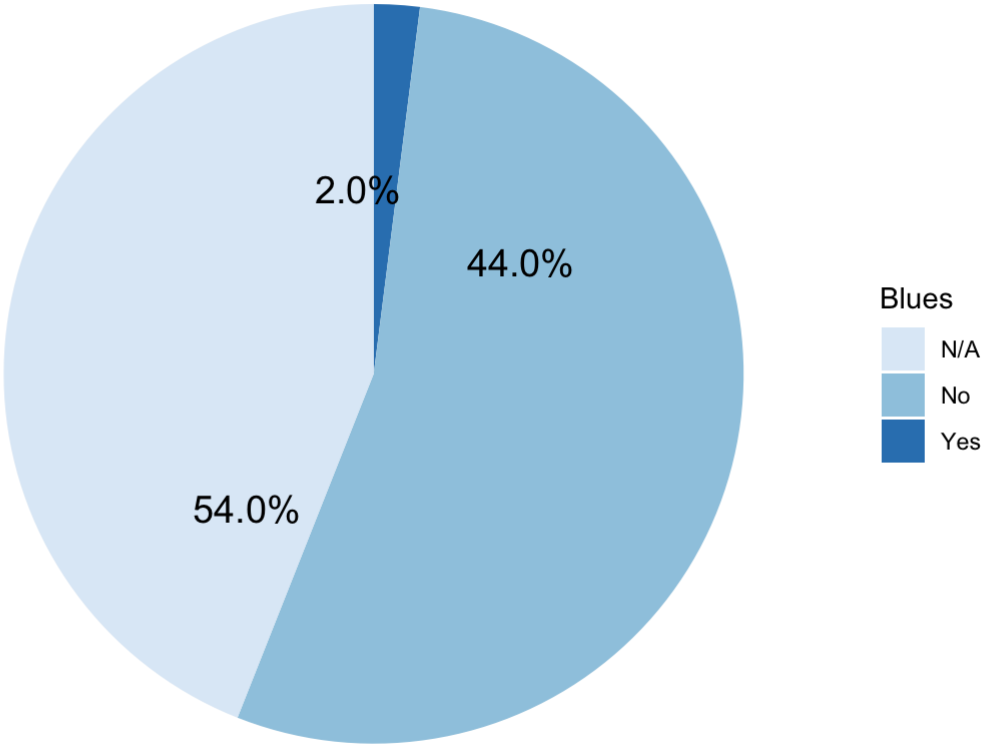
Facebook Graph API Usage Stats

```
data%>%group_by(FacebookGraphAPI)%>%summarise(APIUsage = n()/nrow(data) * 100)%>%
  ggplot(aes(x="", y=APIUsage, fill=FacebookGraphAPI))+
  geom_bar(width = 1, stat = "identity")+ coord_polar("y", start=0)+  scale_fill_brew
er("Blues") +  blank_theme +
  theme(axis.text.x=element_blank()) +
  geom_text(aes(y = APIUsage/3 + c(0, cumsum(APIUsage)[-length(APIUsage)]),
                label = percent(APIUsage/100)), size=5)
```



WinAPI Usage Stats

```
data%>%group_by(WinAPI)%>%summarise(APIUsage = n()/nrow(data) * 100)%>%
  ggplot(aes(x="", y=APIUsage, fill=WinAPI))+
  geom_bar(width = 1, stat = "identity")+ coord_polar("y", start=0)+  scale_fill_brew
er("Blues") +  blank_theme +
  theme(axis.text.x=element_blank()) +
  geom_text(aes(y = APIUsage/3 + c(0, cumsum(APIUsage)[-length(APIUsage)]),
                label = percent(APIUsage/100)), size=5)
```


2.0%
44.0%
54.0%
Blues
N/A
No
Yes