EFleming COMM 310L Final

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```
library(readr)
TV_Data <- read_csv("/Applications/COMMFINAL/EFleming Dataset (new) - EFleming Dataset (new).csv")
```

```
## Rows: 200 Columns: 72
```

```
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr  (5): TV_most_1_TEXT, TV_most_2_TEXT, TV_most_3_TEXT, TV_most_4_TEXT, TV...
## dbl (67): Bachelor_Favoritism, Age, Sex, Race, Rel, Sex_or, Spir, TV, Tvsoap...
```

```
##
## i Use ‘spec()‘ to retrieve the full column specification for this data.
## i Specify the column types or set ‘show_col_types = FALSE‘ to quiet this message.
```

Filtering for people that selected Bachelor as at least one of their favorite shows

```
Bachelor_as_fav <- filter(TV_Data, TV_most_1_TEXT == "The Bachelor" | TV_most_2_TEXT == "The Bachelor"
```

Filtering for people that DID NOT select Bachelor as at least one of their favorite shows

```
Bachelor_not_as_fav <- filter(TV_Data, TV_most_1_TEXT != "The Bachelor" & TV_most_2_TEXT != "The Bachel
```

Creation of variable for correlation matrix for people that selected Bachelor as one of their favorite shows

```
TV_Data_Cor_as_fav <- select(Bachelor_as_fav, "Bachelor_Favoritism", "Age", "Sex", "TV", "Spir", "Tvsoa
TV_Data_Cor_as_fav <- TV_Data_Cor_as_fav %>% drop_na()
```

Creation of variable for correlation matrix of entire sample (people that did and did not select Bachelor)

```
TV_Data_Cor_Whole_Sample <- select(TV_Data, "Bachelor_Favoritism", "Age", "Sex", "TV", "Spir", "Tvsoap"
TV_Data_Cor_Whole_Sample <- TV_Data_Cor_Whole_Sample %>% drop_na()
```

Creation of variable for correlation matrix for people that did and did not select Bachelor as one of their favorite shows

```
TV_Data_Cor_not_as_fav <- select(Bachelor_not_as_fav, "Bachelor_Favoritism", "Age", "Sex", "TV", "Spir"
TV_Data_Cor_not_as_fav <- TV_Data_Cor_not_as_fav %>% drop_na()
```

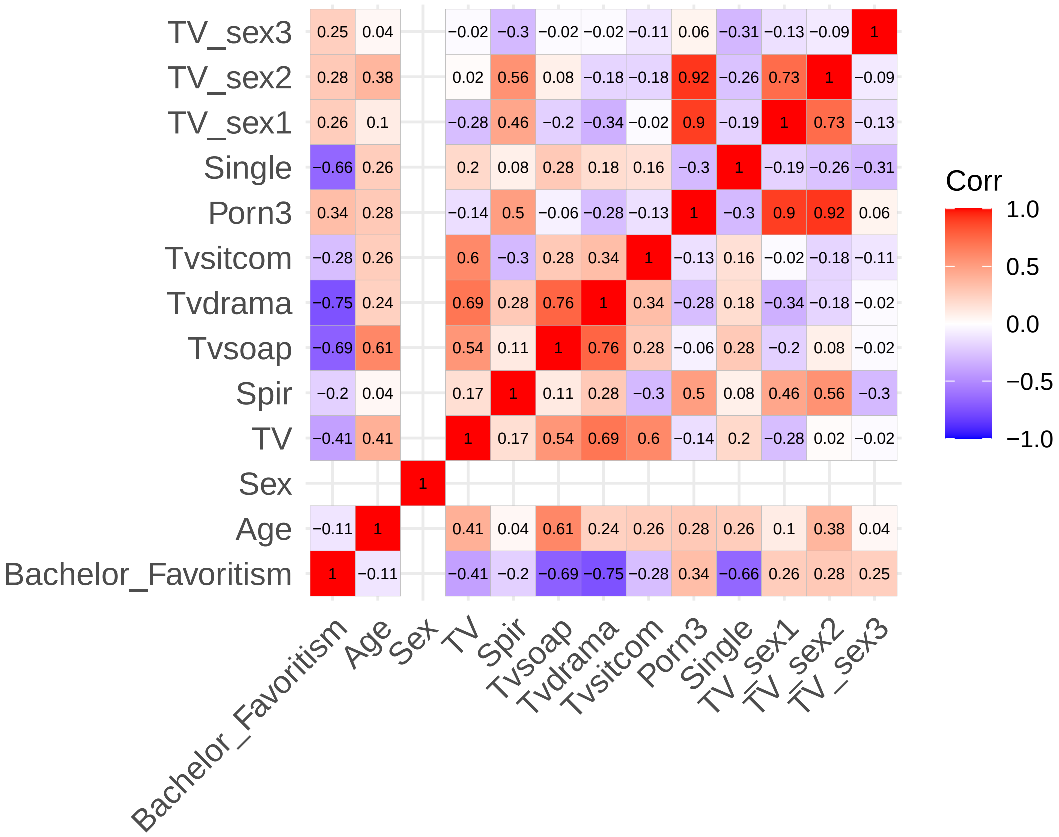
Correlation Matrix for those that include The Bachelor as their favorite

—->This correlation matrix includes a new "Bachelor_Favoritism" ordinal variable in which the preference for The Bachelor is used on a scale of 0-5 (based on where people rank The Bachelor).

```
Cor_Data_As_Fav <- cor(TV_Data_Cor_as_fav)
```

```
## Warning in cor(TV_Data_Cor_as_fav): the standard deviation is zero
```

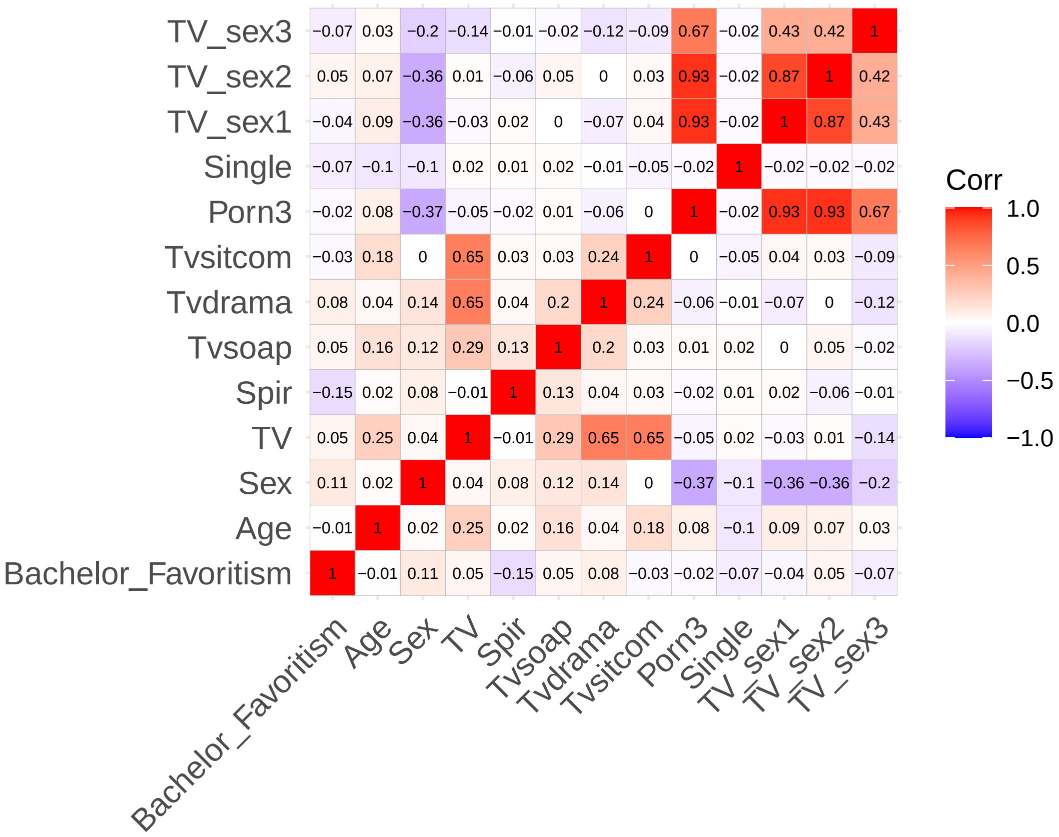
```
ggcorrplot(Cor_Data_As_Fav, lab = TRUE, lab_size = 2)
```



Correlation Matrix for Whole Sample

—->This correlation matrix includes a new "Bachelor_Favoritism" ordinal variable in which the preference for The Bachelor is used on a scale of 0-5 (based on where people rank The Bachelor).

```
Cor_Data_Whole_Sample <- cor(TV_Data_Cor_Whole_Sample)
ggcorrplot(Cor_Data_Whole_Sample, lab = TRUE, lab_size = 2)
```



	Bachelor_Favoritism	Age	Sex	TV	Spir	Tvsoap	Tvdrama	Tvsitcom	Porn3	Single	TV_sex1	TV_sex2	TV_sex3
TV_sex3	−0.07	0.03	−0.2	−0.14	−0.01	−0.02	−0.12	−0.09	0.67	−0.02	0.43	0.42	1
TV_sex2	0.05	0.07	−0.36	0.01	−0.06	0.05	0	0.03	0.93	−0.02	0.87	1	0.42
TV_sex1	−0.04	0.09	−0.36	−0.03	0.02	0	−0.07	0.04	0.93	−0.02	1	0.87	0.43
Single	−0.07	−0.1	−0.1	0.02	0.01	0.02	−0.01	−0.05	−0.02	1	−0.02	−0.02	−0.02
Porn3	−0.02	0.08	−0.37	−0.05	−0.02	0.01	−0.06	0	1	−0.02	0.93	0.93	0.67
Tvsitcom	−0.03	0.18	0	0.65	0.03	0.03	0.24	1	0	−0.05	0.04	0.03	−0.09
Tvdrama	0.08	0.04	0.14	0.65	0.04	0.2	1	0.24	−0.06	−0.01	−0.07	0	−0.12
Tvsoap	0.05	0.16	0.12	0.29	0.13	1	0.2	0.03	0.01	0.02	0	0.05	−0.02
Spir	−0.15	0.02	0.08	−0.01	1	0.13	0.04	0.03	−0.02	0.01	0.02	−0.06	−0.01
TV	0.05	0.25	0.04	1	−0.01	0.29	0.65	0.65	−0.05	0.02	−0.03	0.01	−0.14
Sex	0.11	0.02	1	0.04	0.08	0.12	0.14	0	−0.37	−0.1	−0.36	−0.36	−0.2
Age	−0.01	1	0.02	0.25	0.02	0.16	0.04	0.18	0.08	−0.1	0.09	0.07	0.03
Bachelor_Favoritism	1	−0.01	0.11	0.05	−0.15	0.05	0.08	−0.03	−0.02	−0.07	−0.04	0.05	−0.07

We created a new variable here (a dummy variable for Bachelor Favoritism)

```
TV_Data$Bachelor = ifelse(TV_Data$Bachelor_Favoritism>0,1,0)
Bachelor_glm_model <- glm(Bachelor~Age + Sex + TV + Spir + Tvdrama + Tvsitcom + Porn3 + Single, data =
summary(Bachelor_glm_model)
```

```
##
## Call:
## glm(formula = Bachelor ~ Age + Sex + TV + Spir + Tvdrama + Tvsitcom +
##     Porn3 + Single, family = "binomial", data = TV_Data)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -1.0903  -0.4320  -0.2987  -0.1919   2.7906
##
## Coefficients:
##               Estimate Std. Error z value Pr(>|z|)
## (Intercept) -3.589e+01  3.650e+03  -0.010   0.9922
## Age         -1.018e-03  1.615e-01  -0.006   0.9950
## Sex          1.712e+01  1.825e+03   0.009   0.9925
## TV           5.711e-03  6.251e-02   0.091   0.9272
## Spir        -2.157e-02  1.001e-02  -2.155   0.0311 *
## Tvdrama      9.198e-02  8.551e-02   1.076   0.2821
## Tvsitcom    -5.901e-02  1.008e-01  -0.586   0.5581
## Porn3       -4.226e-02  2.818e-01  -0.150   0.8808
## Single       1.731e-02  5.894e-01   0.029   0.9766
## ---
## Signif. codes:  0 ’***’ 0.001 ’**’ 0.01 ’*’ 0.05 ’.’ 0.1 ’ ’ 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 101.16  on 197  degrees of freedom
## Residual deviance:  88.49  on 189  degrees of freedom
##   (2 observations deleted due to missingness)
## AIC: 106.49
##
## Number of Fisher Scoring iterations: 18
```

```
Bachelor_model <- lm(Bachelor_Favoritism~Age + Sex + TV + Spir + Tvdrama + Tvsitcom + Porn3 + Single, da
summary(Bachelor_model)
```

```
##
## Call:
## lm(formula = Bachelor_Favoritism ~ Age + Sex + TV + Spir + Tvdrama +
##     Tvsitcom + Porn3 + Single, data = TV_Data)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.0883 -0.3901 -0.2193 -0.0821  4.8454
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.138261   0.934940   0.148   0.8826
## Age         -0.013161   0.040613  -0.324   0.7462
## Sex          0.347771   0.213407   1.630   0.1048
## TV           0.014399   0.018277   0.788   0.4318
## Spir        -0.005184   0.002416  -2.146   0.0331 *
## Tvdrama      0.009861   0.024161   0.408   0.6836
## Tvsitcom    -0.025864   0.026025  -0.994   0.3216
## Porn3        0.017812   0.063240   0.282   0.7785
## Single      -0.127722   0.151801  -0.841   0.4012
## ---
## Signif. codes:  0 ’***’ 0.001 ’**’ 0.01 ’*’ 0.05 ’.’ 0.1 ’ ’ 1
##
## Residual standard error: 1.035 on 189 degrees of freedom
##   (2 observations deleted due to missingness)
## Multiple R-squared:  0.04924,    Adjusted R-squared:  0.008998
## F-statistic: 1.224 on 8 and 189 DF,  p-value: 0.2872
```

$Bachelor_{m}odel < -lm(Bachelor_{F}avoritism\ Age+Sex+TV+Spir+Tvdrama+Tvsitcom+Porn3+Single, data = TV_{D}ata)$

```
Bachelor_model_2 <- lm(Bachelor_Favoritism~Spir, data = TV_Data[TV_Data$Bachelor==1,])
```

Function to find and get rid of multicollinearity

```
car::vif(Bachelor_model)
```

```
##      Age      Sex       TV     Spir  Tvdrama Tvsitcom    Porn3   Single
## 1.151664 1.169890 2.669544 1.024187 1.661816 1.730129 1.129812 1.037662
```

*Deleted TV_sex1, TV_sex2, and TV_sex3 as these are likely correlated with porn3 and these are interfering with our p-values when we run a regression.

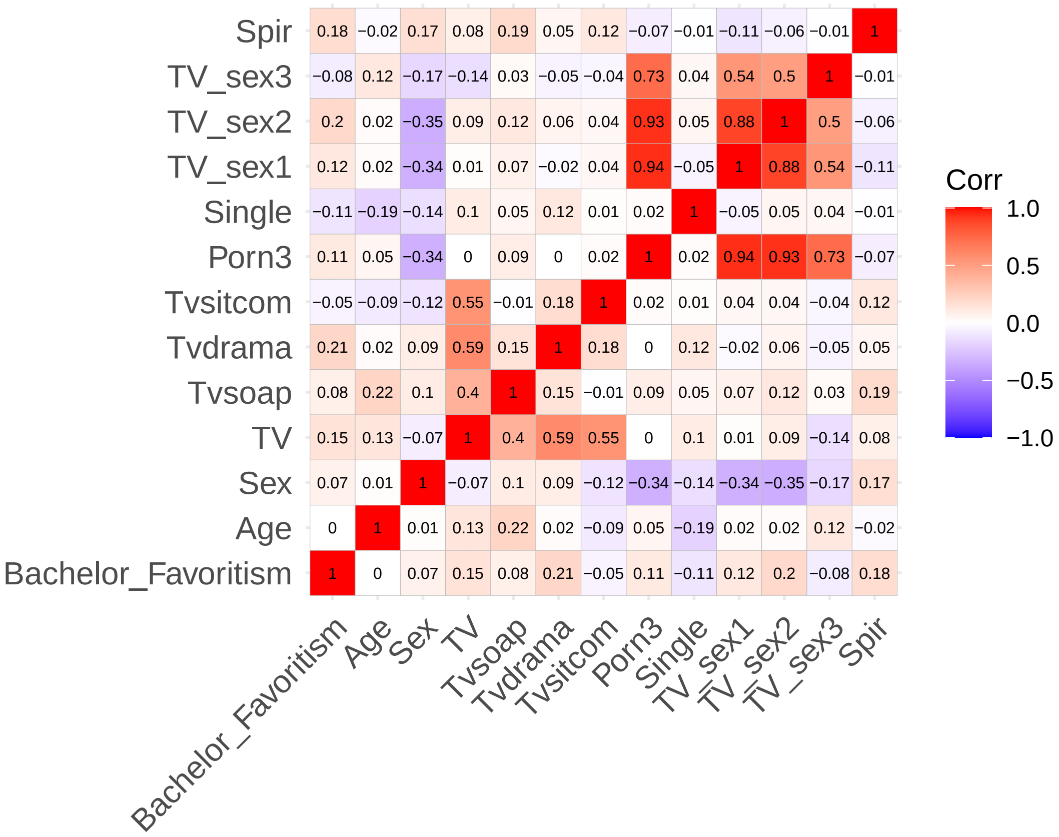
*We also can drop TV Soap as this value is very similar to TV drama. Therefore, there isn't any real need to include this in the regression.

Still we are not super successful with creating statistical significance

```
TV_Data$Spirtual_new = ifelse(TV_Data$Spir>50,1,0)
Bachelor_as_fav$Spirtual_new = ifelse(Bachelor_as_fav$Spir>50,1,0)
Spir_1 = TV_Data[TV_Data$Spirtual_new==1,]
Spir_0 = TV_Data[TV_Data$Spirtual_new==0,]
Spir_1_Cor <- cor(na.omit(Spir_1[,c("Bachelor_Favoritism", "Age", "Sex", "TV", "Tvsoap", "Tvdrama", "Tvs
Spir_0_Cor <- cor(na.omit(Spir_0[,c("Bachelor_Favoritism", "Age", "Sex", "TV", "Tvsoap", "Tvdrama", "Tvs
```

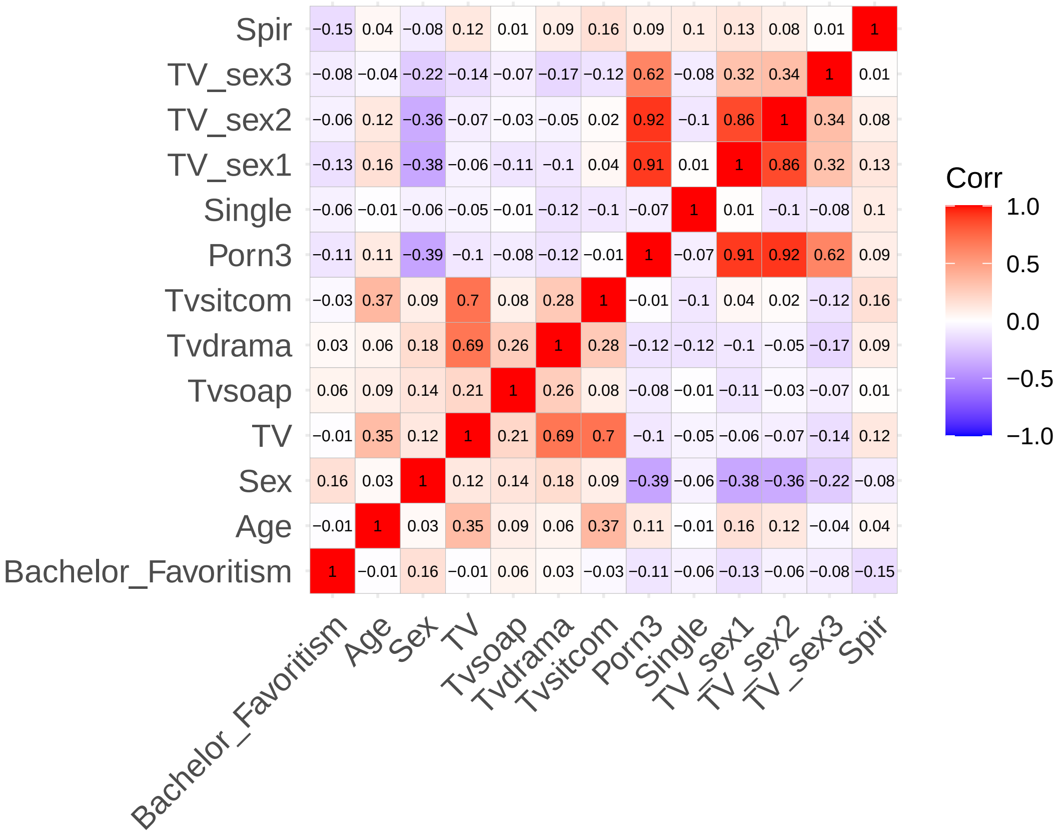
When you control for spirituality, other variables are not highly correlated to Bachelor_Favoritism. Here create 2 groups of people. One for people with spirituality above median (50) and one below 50. Once you control for spirituality, the correlations go away. Correlation is being driven not by Bachelor Favoritism and each variable by themselves but spirituality.

```
ggcorrplot(Spir_1_Cor, lab = TRUE, lab_size = 2)
```



	Bachelor_Favoritism	Age	Sex	TV	Tvsoap	Tvdrama	Tvsitcom	Porn3	Single	TV_sex1	TV_sex2	TV_sex3	Spir
Spir	0.18	−0.02	0.17	0.08	0.19	0.05	0.12	−0.07	−0.01	−0.11	−0.06	−0.01	1
TV_sex3	−0.08	0.12	−0.17	−0.14	0.03	−0.05	−0.04	0.73	0.04	0.54	0.5	1	−0.01
TV_sex2	0.2	0.02	−0.35	0.09	0.12	0.06	0.04	0.93	0.05	0.88	1	0.5	−0.06
TV_sex1	0.12	0.02	−0.34	0.01	0.07	−0.02	0.04	0.94	−0.05	1	0.88	0.54	−0.11
Single	−0.11	−0.19	−0.14	0.1	0.05	0.12	0.01	0.02	1	−0.05	0.05	0.04	−0.01
Porn3	0.11	0.05	−0.34	0	0.09	0	0.02	1	0.02	0.94	0.93	0.73	−0.07
Tvsitcom	−0.05	−0.09	−0.12	0.55	−0.01	0.18	1	0.02	0.01	0.04	0.04	−0.04	0.12
Tvdrama	0.21	0.02	0.09	0.59	0.15	1	0.18	0	0.12	−0.02	0.06	−0.05	0.05
Tvsoap	0.08	0.22	0.1	0.4	1	0.15	−0.01	0.09	0.05	0.07	0.12	0.03	0.19
TV	0.15	0.13	−0.07	1	0.4	0.59	0.55	0	0.1	0.01	0.09	−0.14	0.08
Sex	0.07	0.01	1	−0.07	0.1	0.09	−0.12	−0.34	−0.14	−0.34	−0.35	−0.17	0.17
Age	0	1	0.01	0.13	0.22	0.02	−0.09	0.05	−0.19	0.02	0.02	0.12	−0.02
Bachelor_Favoritism	1	0	0.07	0.15	0.08	0.21	−0.05	0.11	−0.11	0.12	0.2	−0.08	0.18

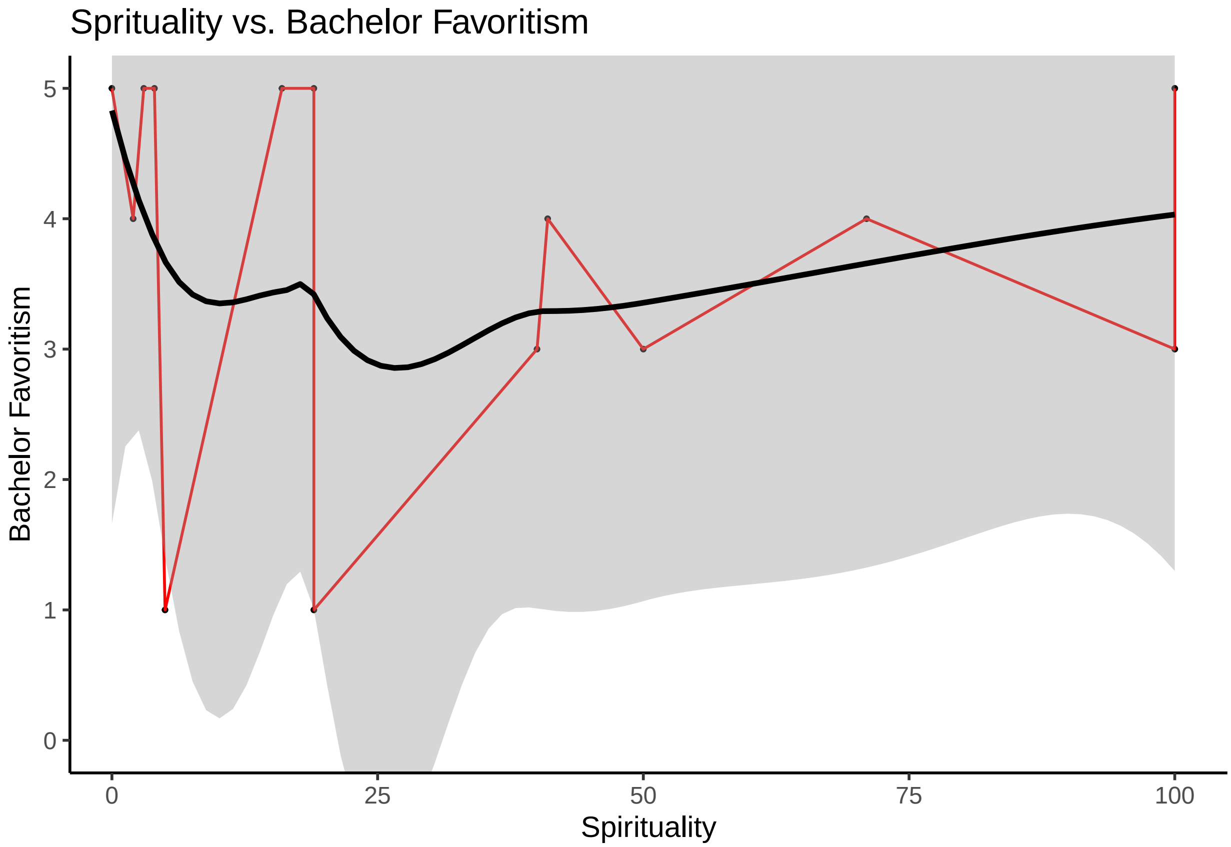
```
ggcorrplot(Spir_0_Cor, lab = TRUE, lab_size = 2)
```



	Bachelor_Favoritism	Age	Sex	TV	Tvsoap	Tvdrama	Tvsitcom	Porn3	Single	TV_sex1	TV_sex2	TV_sex3	Spir
Spir	−0.15	0.04	−0.08	0.12	0.01	0.09	0.16	0.09	0.1	0.13	0.08	0.01	1
TV_sex3	−0.08	−0.04	−0.22	−0.14	−0.07	−0.17	−0.12	0.62	−0.08	0.32	0.34	1	0.01
TV_sex2	−0.06	0.12	−0.36	−0.07	−0.03	−0.05	0.02	0.92	−0.1	0.86	1	0.34	0.08
TV_sex1	−0.13	0.16	−0.38	−0.06	−0.11	−0.1	0.04	0.91	0.01	1	0.86	0.32	0.13
Single	−0.06	−0.01	−0.06	−0.05	−0.01	−0.12	−0.1	−0.07	1	0.01	−0.1	−0.08	0.1
Porn3	−0.11	0.11	−0.39	−0.1	−0.08	−0.12	−0.01	1	−0.07	0.91	0.92	0.62	0.09
Tvsitcom	−0.03	0.37	0.09	0.7	0.08	0.28	1	−0.01	−0.1	0.04	0.02	−0.12	0.16
Tvdrama	0.03	0.06	0.18	0.69	0.26	1	0.28	−0.12	−0.12	−0.1	−0.05	−0.17	0.09
Tvsoap	0.06	0.09	0.14	0.21	1	0.26	0.08	−0.08	−0.01	−0.11	−0.03	−0.07	0.01
TV	−0.01	0.35	0.12	1	0.21	0.69	0.7	−0.1	−0.05	−0.06	−0.07	−0.14	0.12
Sex	0.16	0.03	1	0.12	0.14	0.18	0.09	−0.39	−0.06	−0.38	−0.36	−0.22	−0.08
Age	−0.01	1	0.03	0.35	0.09	0.06	0.37	0.11	−0.01	0.16	0.12	−0.04	0.04
Bachelor_Favoritism	1	−0.01	0.16	−0.01	0.06	0.03	−0.03	−0.11	−0.06	−0.13	−0.06	−0.08	−0.15

```r
ggplot(Bachelor_as_fav,
  aes(x = Spir, y = Bachelor_Favoritism)) +
  coord_cartesian(xlim = c(1, 100), ylim = c(0, 5)) +
  geom_point(size = 0.5) +
  geom_line(colour = "red") +
  geom_smooth(colour = "black") +
  labs(title = "Sprituality vs. Bachelor Favoritism",
       x = "Spirituality",
       y = "Bachelor Favoritism")+
  theme_classic()
```

```
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'
```

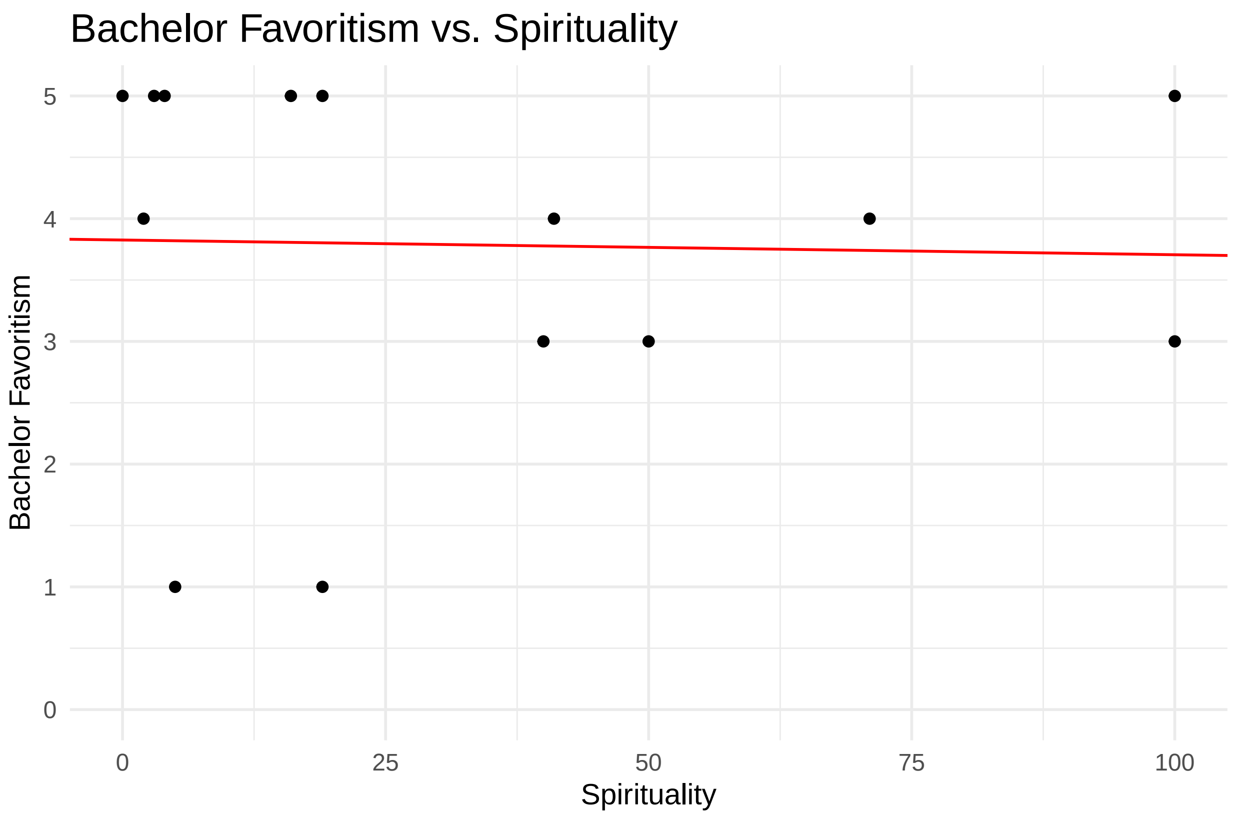


Here, we simply run an exploratory plot based only on those that selected the Bachelor as one of their top 5 favorite shows (as denoted by Bachelor Favoritism). As we can see based only on the original data, we can see that the least spiritual people seem to rank The Bachelor as their favorite show. However, those that still rank the Bachelor as their 2nd or 3rd favorite show exhibit higher levels of spirituality as well.

It is important to note the lack of observations and their impact on this result.

Model Representation for Spirituality vs. Bachelor Favoritism

```
ggplot(Bachelor_model_2,
  aes(x = Spir, y = Bachelor_Favoritism)) +
  geom_point() +
  geom_abline(slope = coef(Bachelor_model_2)[["Spir"]],
              intercept = coef(Bachelor_model_2)[["(Intercept)"]], color = "red") +
  coord_cartesian(xlim = c(0, 100), ylim = c(0, 5)) +
labs(caption = "Source: UMass Amherst",
        title = "Bachelor Favoritism vs. Spirituality",
       x = "Spirituality",
       y = "Bachelor Favoritism") +
theme_minimal() +
theme(plot.title = element_text(size=15))
```



Source: UMass Amherst

For our model we have a slight negative relationship between Bachelor Favoritism and Spirituality.

The important thing is that we are demonstrating that while we do have high correlations, they are not actually important when we visualize the model. We had the highest statistical significance for the p-value between Bachelor Favoritism and Spirituality. However, there small statistical significance when graphically portrayed.

We have chosen Spirituality to represent as this is the only variable in the model that exhibits statistical significance (a p-value smaller than 0.05).

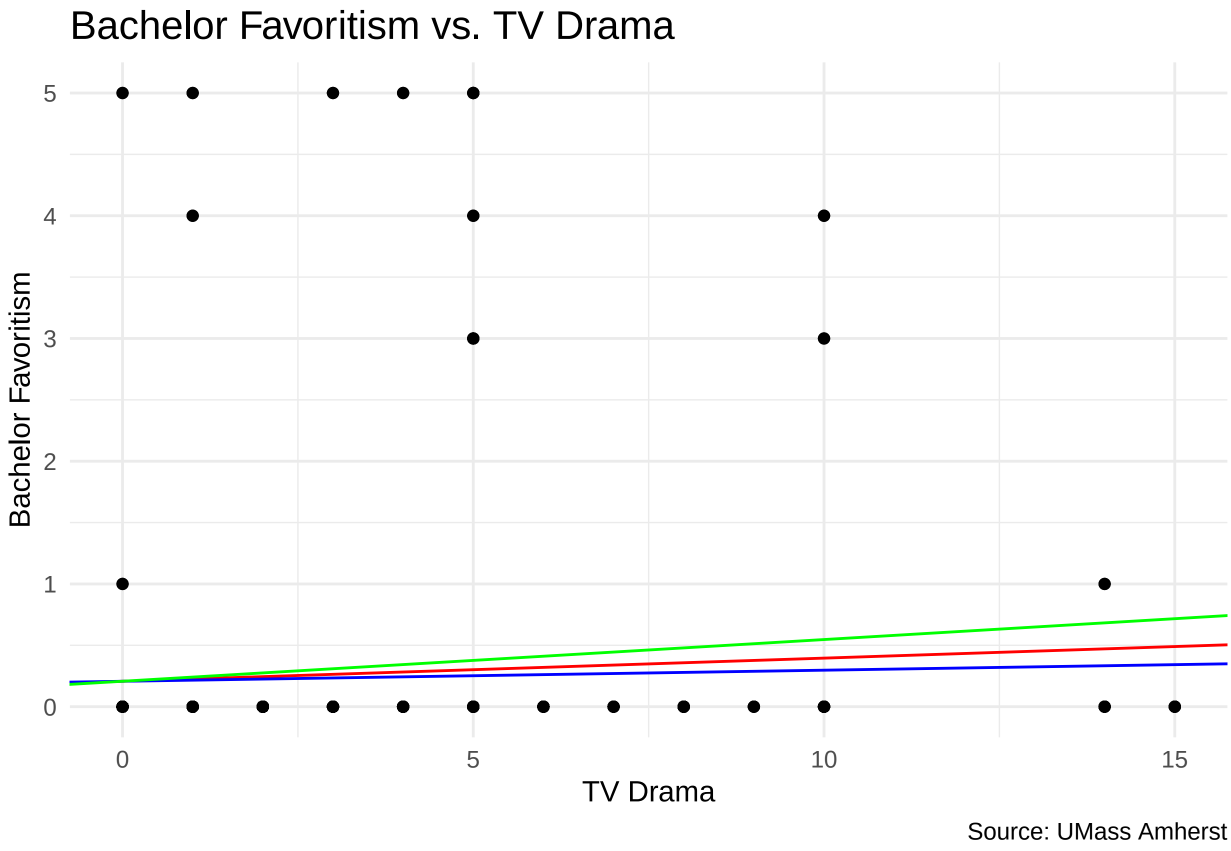
Models for Bachelor Favoritism vs. TV Drama plot

```
Bachelor_model_3 <- lm(Bachelor_Favoritism~Tvdrama, data = TV_Data)
Bachelor_model_4 <- lm(Bachelor_Favoritism~Tvdrama, data = Spir_0,)
Bachelor_model_5 <- lm(Bachelor_Favoritism~Tvdrama, data = Spir_1)
```

Representation of Bachelor Favoritism vs. TV Drama

```
ggplot() +
  geom_point(data = Bachelor_model_3, aes(x = Tvdrama, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_3, slope = coef(Bachelor_model_3)[["Tvdrama"]],
              intercept = coef(Bachelor_model_3)[["(Intercept)"]], color = "red") +
  geom_point(data = Bachelor_model_4, aes(x = Tvdrama, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_4, slope = coef(Bachelor_model_4)[["Tvdrama"]],
              intercept = coef(Bachelor_model_3)[["(Intercept)"]], color = "blue") +
  geom_point(data = Bachelor_model_5, aes(x = Tvdrama, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_5, slope = coef(Bachelor_model_5)[["Tvdrama"]],
              intercept = coef(Bachelor_model_3)[["(Intercept)"]], color = "green") +
  coord_cartesian(xlim = c(0, 15), ylim = c(0, 5)) +
labs(caption = "Source: UMass Amherst",
        title = "Bachelor Favoritism vs. TV Drama",
       x = "TV Drama",
       y = "Bachelor Favoritism") +
theme_minimal() +
theme(plot.title = element_text(size=15))
```

```
## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.
```



Source: UMass Amherst

```
q1 <- ggplot() +
  geom_point(data = Bachelor_model_3, aes(x = Tvdrama, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_3, slope = coef(Bachelor_model_3)[["Tvdrama"]],
              intercept = coef(Bachelor_model_3)[["(Intercept)"]], color = "red") +
  geom_point(data = Bachelor_model_4, aes(x = Tvdrama, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_4, slope = coef(Bachelor_model_4)[["Tvdrama"]],
              intercept = coef(Bachelor_model_3)[["(Intercept)"]], color = "blue") +
  geom_point(data = Bachelor_model_5, aes(x = Tvdrama, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_5, slope = coef(Bachelor_model_5)[["Tvdrama"]],
              intercept = coef(Bachelor_model_3)[["(Intercept)"]], color = "green") +
  coord_cartesian(xlim = c(0, 15), ylim = c(0, 5)) +
labs(caption = "Source: UMass Amherst",
        title = "Bachelor Favoritism vs. TV Drama",
       x = "TV Drama",
       y = "Bachelor Favoritism") +
theme_minimal() +
theme(plot.title = element_text(size=15))
```

```
## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.
```

For the following models, the dataset was split into three groups. The blue line represents the entire sample with regards to those who selected The Bachelor as one of their favorite shows and those who did not.The green line represents those with 50% or higher levels of spirituality. The red line represents represents those with 50% or lower levels of spirituality.

The “TV Soap” and “TV Drama” variables had very similar levels of correlation. Therefore, only TV Drama was included in the model to ensure the highest levels of statistical significance.

As we can observe, individuals with higher levels of spirituality that watched the most TV Drama tend have higher levels of of Bachelor Favoritism compared to other groups.

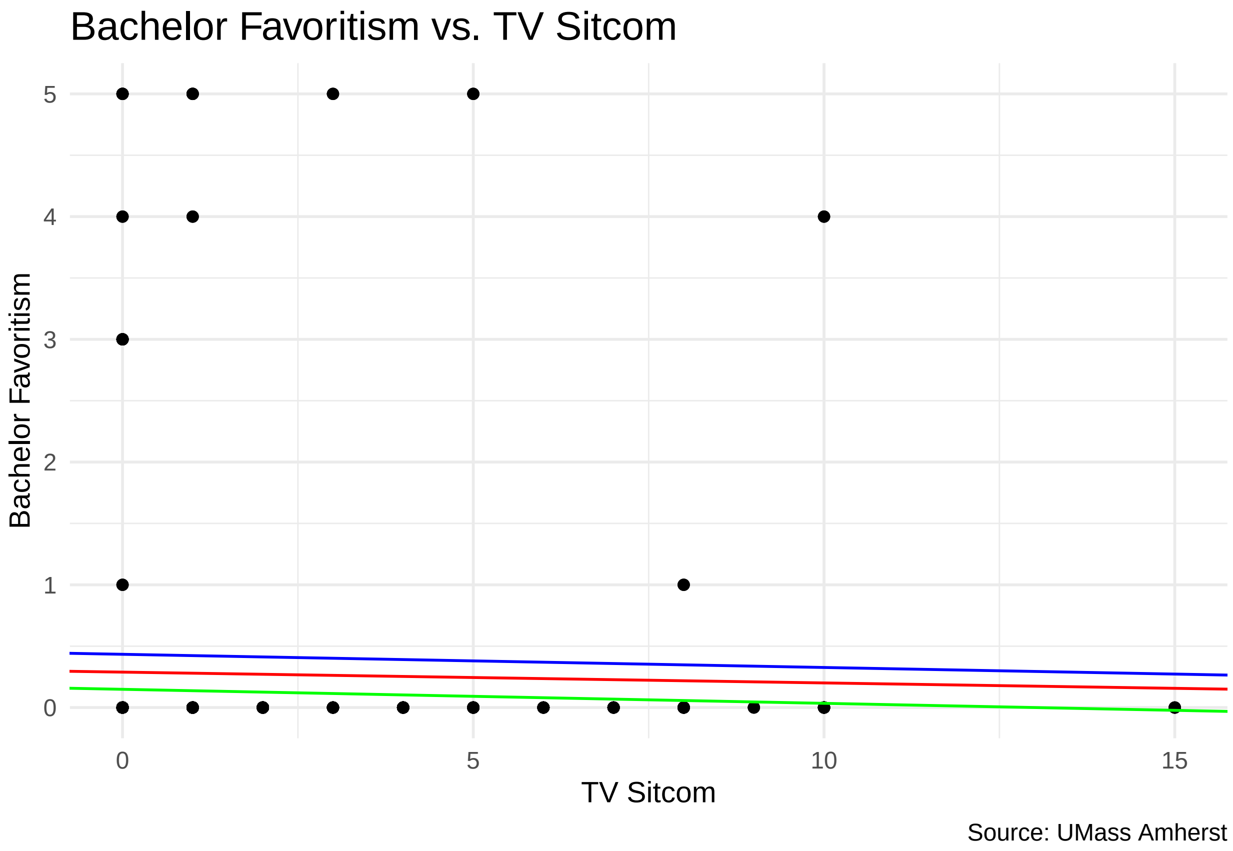
Models for Bachelor Favoritism vs. TV Sitcom plot

```
Bachelor_model_6 <- lm(Bachelor_Favoritism~Tvsitcom, data = TV_Data)
Bachelor_model_7 <- lm(Bachelor_Favoritism~Tvsitcom, data = Spir_0)
Bachelor_model_8 <- lm(Bachelor_Favoritism~Tvsitcom, data = Spir_1)
```

Representation of Bachelor Favoritism vs. TV Drama plot

```
ggplot() +
  geom_point(data = Bachelor_model_6, aes(x = Tvsitcom, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_6, slope = coef(Bachelor_model_6)[["Tvsitcom"]],
              intercept = coef(Bachelor_model_6)[["(Intercept)"]], color = "red") +
  geom_point(data = Bachelor_model_7, aes(x = Tvsitcom, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_7, slope = coef(Bachelor_model_7)[["Tvsitcom"]],
              intercept = coef(Bachelor_model_7)[["(Intercept)"]], color = "blue") +
  geom_point(data = Bachelor_model_8, aes(x = Tvsitcom, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_8, slope = coef(Bachelor_model_8)[["Tvsitcom"]],
              intercept = coef(Bachelor_model_8)[["(Intercept)"]], color = "green") +
  coord_cartesian(xlim = c(0, 15), ylim = c(0, 5)) +
labs(caption = "Source: UMass Amherst",
        title = "Bachelor Favoritism vs. TV Sitcom",
       x = "TV Sitcom",
       y = "Bachelor Favoritism") +
theme_minimal() +
theme(plot.title = element_text(size=15))
```

```
## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.
```



```
q2 <- ggplot() +
  geom_point(data = Bachelor_model_6, aes(x = Tvsitcom, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_6, slope = coef(Bachelor_model_6)[["Tvsitcom"]],
              intercept = coef(Bachelor_model_6)[["(Intercept)"]], color = "red") +
  geom_point(data = Bachelor_model_7, aes(x = Tvsitcom, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_7, slope = coef(Bachelor_model_7)[["Tvsitcom"]],
              intercept = coef(Bachelor_model_7)[["(Intercept)"]], color = "blue") +
  geom_point(data = Bachelor_model_8, aes(x = Tvsitcom, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_8, slope = coef(Bachelor_model_8)[["Tvsitcom"]],
              intercept = coef(Bachelor_model_8)[["(Intercept)"]], color = "green") +
  coord_cartesian(xlim = c(0, 15), ylim = c(0, 5)) +
labs(caption = "Source: UMass Amherst",
        title = "Bachelor Favoritism vs. TV Sitcom",
       x = "TV Sitcom",
       y = "Bachelor Favoritism") +
theme_minimal() +
theme(plot.title = element_text(size=15))
```

```
## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.
```

All groups with regards to Bachelor favoritism exhibit a small and negative relationship between Bachelor Favoritism and TV Sitcom watched.

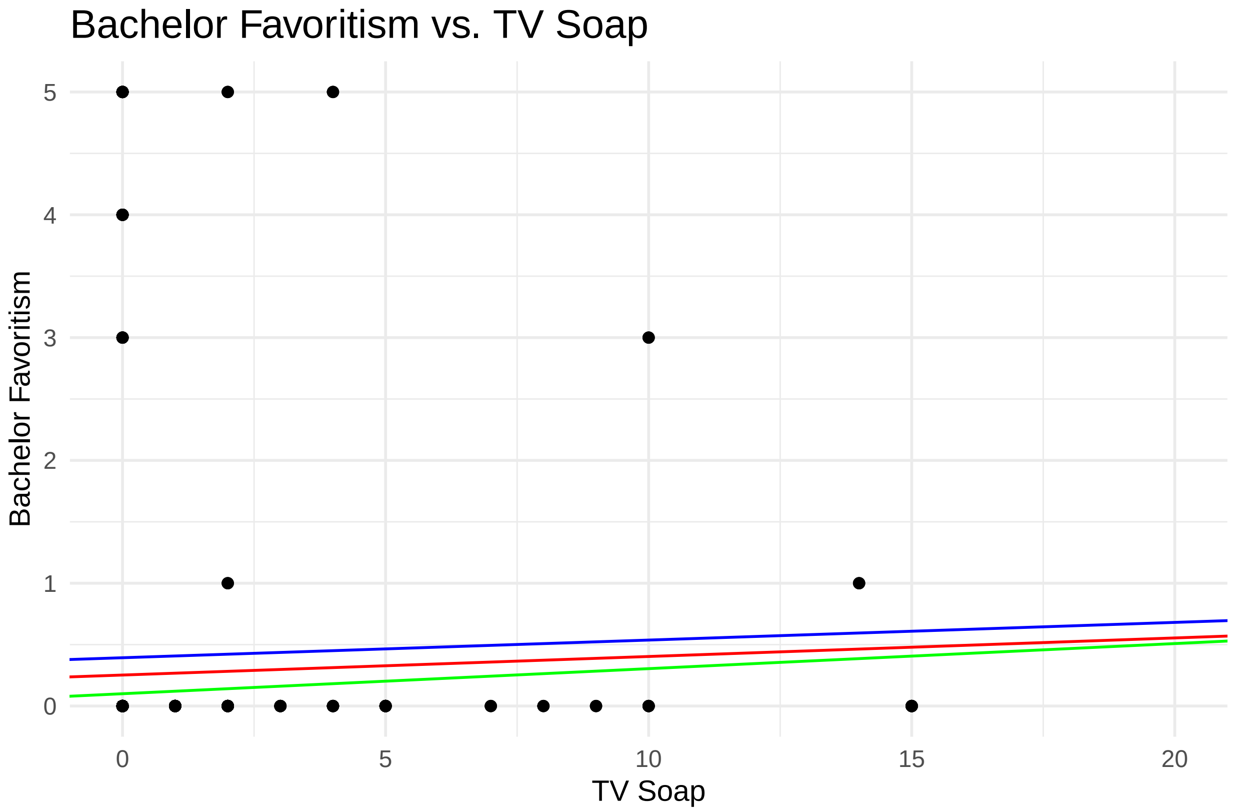
Models for Bachelor Favoritism vs. TV Soap Opera plot

```
Bachelor_model_9 <- lm(Bachelor_Favoritism~Tvsoap, data = TV_Data)
Bachelor_model_10 <- lm(Bachelor_Favoritism~Tvsoap, data = Spir_0)
Bachelor_model_11 <- lm(Bachelor_Favoritism~Tvsoap, data = Spir_1)
```

Representation of Bachelor Favoritism vs. TV Soap Opera plot

```
ggplot() +
  geom_point(data = Bachelor_model_9, aes(x = Tvsoap, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_9, slope = coef(Bachelor_model_9)[["Tvsoap"]],
              intercept = coef(Bachelor_model_9)[["(Intercept)"]], color = "red") +
  geom_point(data = Bachelor_model_10, aes(x = Tvsoap, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_10, slope = coef(Bachelor_model_10)[["Tvsoap"]],
              intercept = coef(Bachelor_model_10)[["(Intercept)"]], color = "blue") +
  geom_point(data = Bachelor_model_11, aes(x = Tvsoap, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_11, slope = coef(Bachelor_model_11)[["Tvsoap"]],
              intercept = coef(Bachelor_model_11)[["(Intercept)"]], color = "green") +
  coord_cartesian(xlim = c(0, 20), ylim = c(0, 5)) +
labs(caption = "Source: UMass Amherst",
        title = "Bachelor Favoritism vs. TV Soap",
       x = "TV Soap",
       y = "Bachelor Favoritism") +
theme_minimal() +
theme(plot.title = element_text(size=15))
```

```
## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.
## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.
```



Source: UMass Amherst

```
q3 <- ggplot() +
  geom_point(data = Bachelor_model_9, aes(x = Tvsoap, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_9, slope = coef(Bachelor_model_9)[["Tvsoap"]],
              intercept = coef(Bachelor_model_9)[["(Intercept)"]], color = "red") +
  geom_point(data = Bachelor_model_10, aes(x = Tvsoap, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_10, slope = coef(Bachelor_model_10)[["Tvsoap"]],
              intercept = coef(Bachelor_model_10)[["(Intercept)"]], color = "blue") +
  geom_point(data = Bachelor_model_11, aes(x = Tvsoap, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_11, slope = coef(Bachelor_model_11)[["Tvsoap"]],
              intercept = coef(Bachelor_model_11)[["(Intercept)"]], color = "green") +
  coord_cartesian(xlim = c(0, 20), ylim = c(0, 5)) +
labs(caption = "Source: UMass Amherst",
        title = "Bachelor Favoritism vs. TV Soap",
       x = "TV Soap",
       y = "Bachelor Favoritism") +
theme_minimal() +
theme(plot.title = element_text(size=15))
```

```
## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.
```

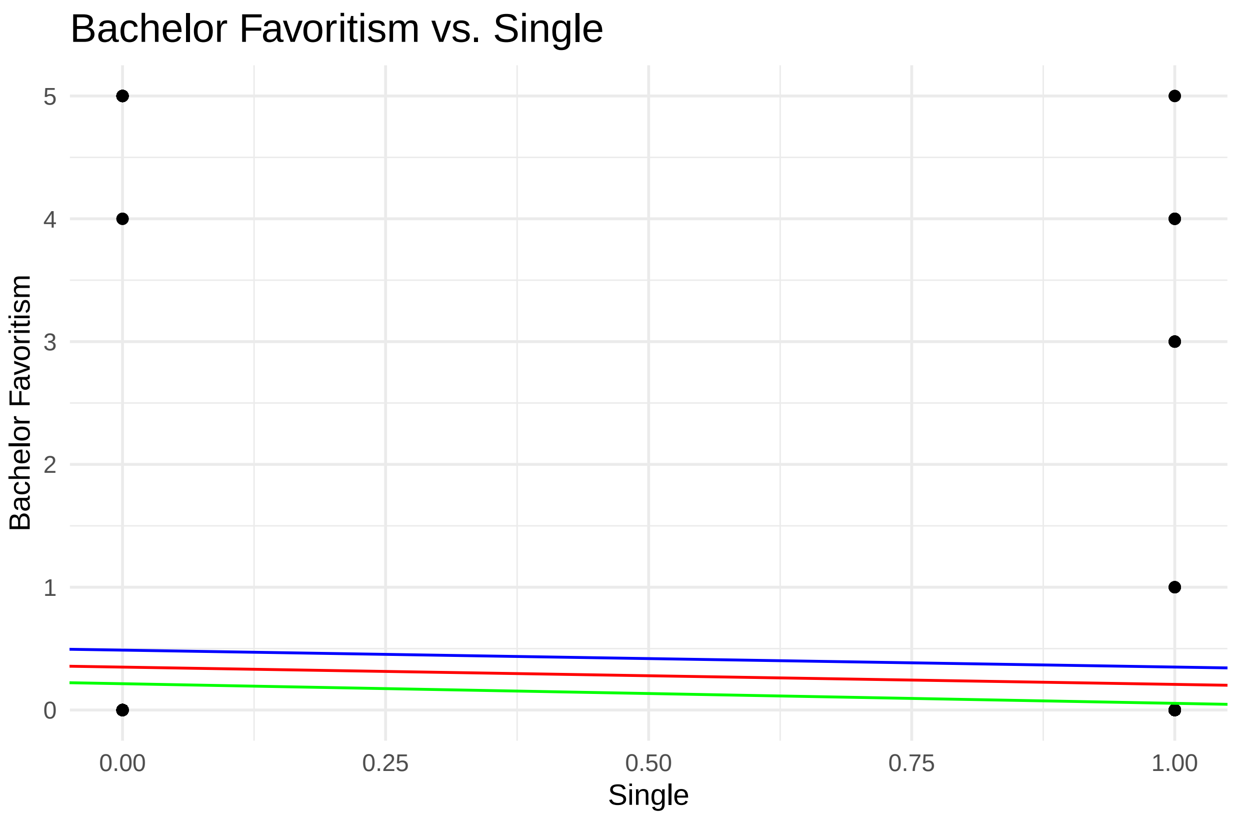
Models for Bachelor Favoritism vs. Single plot

```
Bachelor_model_12 <- lm(Bachelor_Favoritism~Single, data = TV_Data)
Bachelor_model_13 <- lm(Bachelor_Favoritism~Single, data = Spir_0)
Bachelor_model_14 <- lm(Bachelor_Favoritism~Single, data = Spir_1)
```

Bachelor Favoritism vs. Single plot

```
ggplot() +
  geom_point(data = Bachelor_model_12, aes(x = Single, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_12, slope = coef(Bachelor_model_12)[["Single"]],
              intercept = coef(Bachelor_model_12)[["(Intercept)"]], color = "red") +
  geom_point(data = Bachelor_model_13, aes(x = Single, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_13, slope = coef(Bachelor_model_13)[["Single"]],
              intercept = coef(Bachelor_model_13)[["(Intercept)"]], color = "blue") +
  geom_point(data = Bachelor_model_14, aes(x = Single, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_14, slope = coef(Bachelor_model_14)[["Single"]],
              intercept = coef(Bachelor_model_14)[["(Intercept)"]], color = "green") +
  coord_cartesian(xlim = c(0, 1), ylim = c(0, 5)) +
labs(caption = "Source: UMass Amherst",
        title = "Bachelor Favoritism vs. Single",
       x = "Single",
       y = "Bachelor Favoritism") +
theme_minimal() +
theme(plot.title = element_text(size=15))
```

```
## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.
```

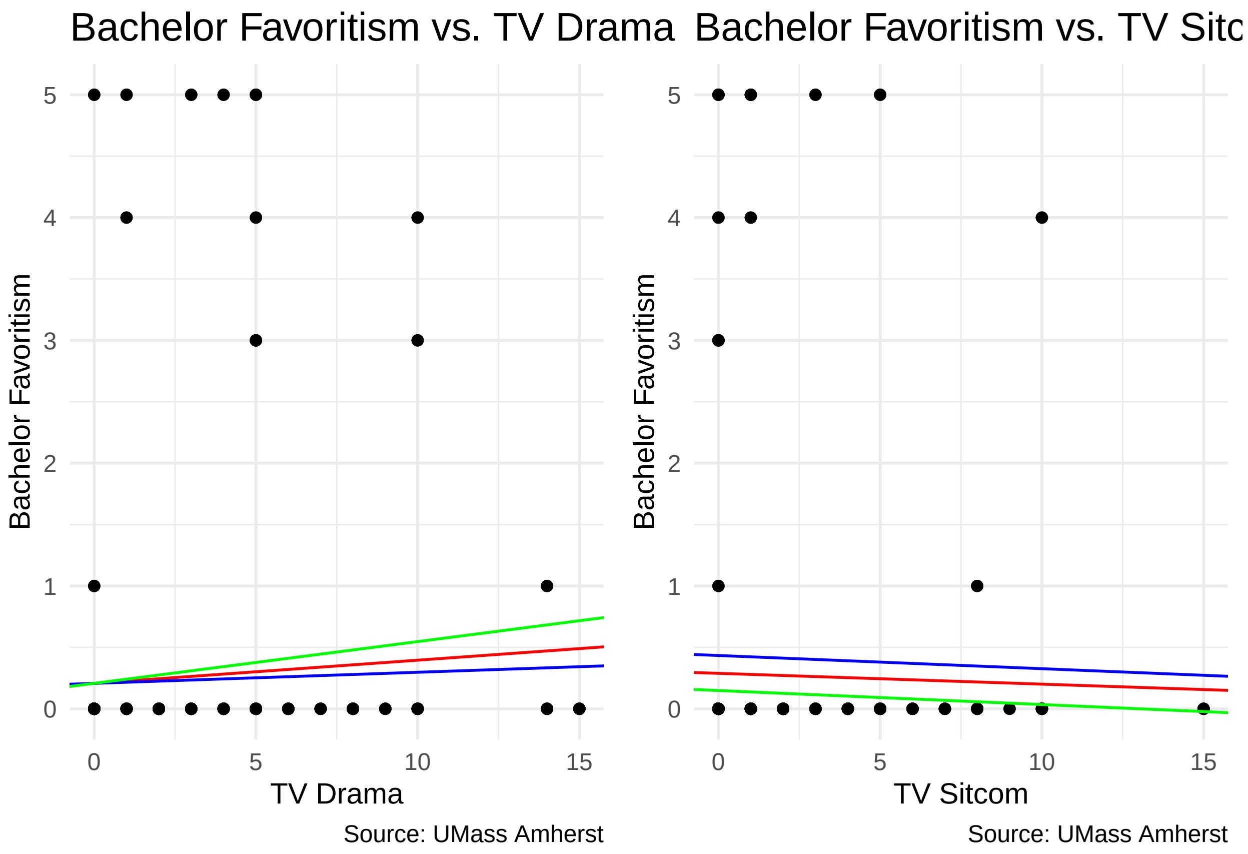


Source: UMass Amherst

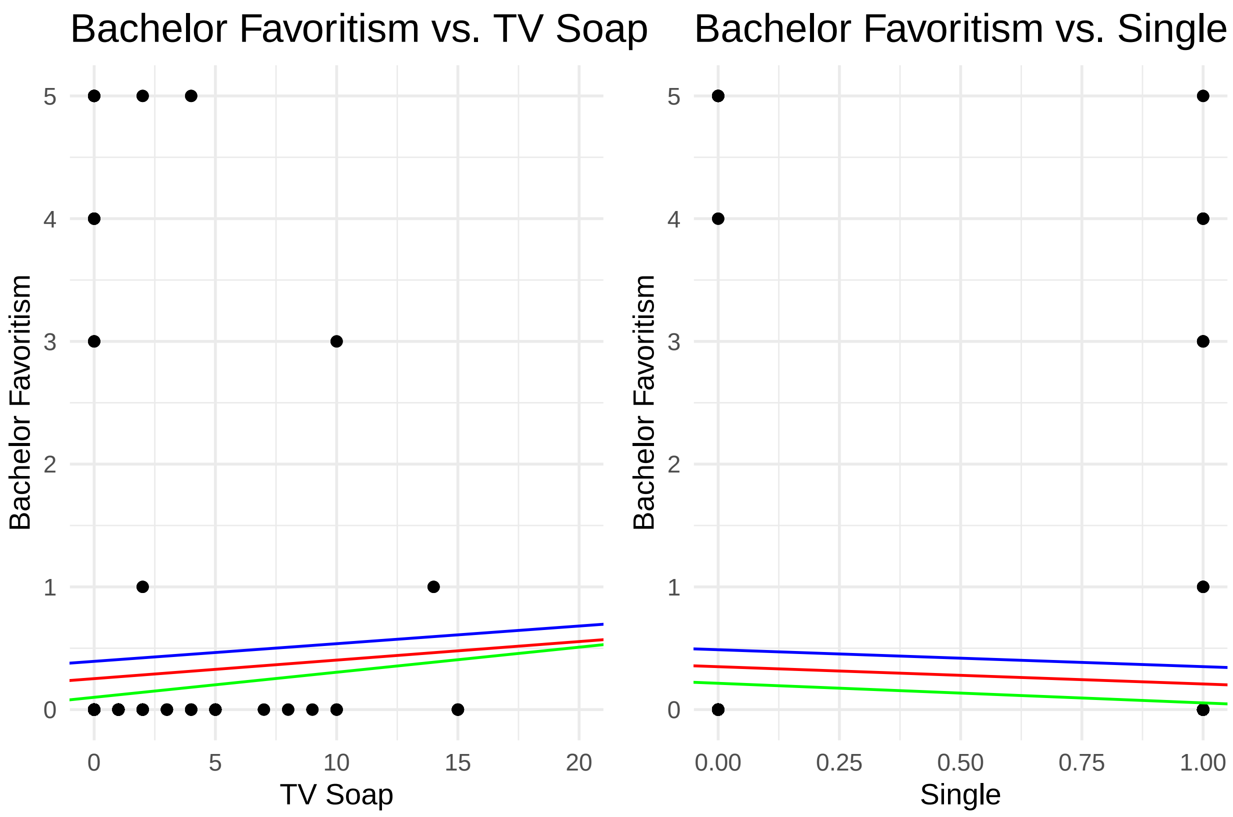
```
q4 <- ggplot() +
  geom_point(data = Bachelor_model_12, aes(x = Single, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_12, slope = coef(Bachelor_model_12)[["Single"]],
              intercept = coef(Bachelor_model_12)[["(Intercept)"]], color = "red") +
  geom_point(data = Bachelor_model_13, aes(x = Single, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_13, slope = coef(Bachelor_model_13)[["Single"]],
              intercept = coef(Bachelor_model_13)[["(Intercept)"]], color = "blue") +
  geom_point(data = Bachelor_model_14, aes(x = Single, y = Bachelor_Favoritism)) +
  geom_abline(data = Bachelor_model_14, slope = coef(Bachelor_model_14)[["Single"]],
              intercept = coef(Bachelor_model_14)[["(Intercept)"]], color = "green") +
  coord_cartesian(xlim = c(0, 1), ylim = c(0, 5)) +
labs(caption = "Source: UMass Amherst",
      title = "Bachelor Favoritism vs. Single",
     x = "Single",
     y = "Bachelor Favoritism") +
theme_minimal() +
theme(plot.title = element_text(size=15))
```

```
## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.

## Warning: geom_abline(): Ignoring ‘data‘ because ‘slope‘ and/or ‘intercept‘ were
## provided.
```

```
ggarrange(q1, q2, nrow = 1)
```



```
ggarrange(q3, q4, nrow = 1)
```



Source: UMass Amherst

Source: UMass Amherst