Study 2

October 03, 2024

Items

Read Data

```
## Pull directly from Qualtrics API
qual_data <- fetch_survey(surveyID='SV_2tycLNwc08A12cK',
                  label = T,
                  convert = F,
                  start_date = "2024-01-22",
                  force_request = T)
```

Variable Names

Variable	Description
encouragement	Binary indicator of whether the participant was randomly assigned to the encouragement condition.
gender_feedback	Binary indicator of whether the participant was randomly assigned to gender feedback condition.
female	Binary indicator of whether the participant selected a female podcast host for their seventh selection.
episodes_shown	Binary indicator of whether the participant was randomly assigned to receive feedback on the number of episodes in the podcast.
episodes_pick	Binary indicator of whether the participant selected a podcast with over 300 episodes.
duration_shown	Binary indicator of whether the participant was randomly assigned to receive feedback on the duration of podcasts.
duration_pick	Binary indicator of whether the participant selected a podcast with an average length of over 2 hours.
years_shown	Binary indicator of whether the participant was randomly assigned to receive feedback about when the podcast started.
years_pick	Binary indicator of whether the participant selected a podcast that started over 3 years ago.
base_gender	Count of the number of podcasts with a female host selected in the initial six podcasts.
gender	Self-selected gender.
race	Self-selected race.
age	Self-entered age.
gender_code	Dummy code for gender (male = 1).
race_code	Dummy code for race (white = 1).

Demographics

```
## Excluded Participants: 99
```

```
##                          Percentage gender
## 1 Another gender not listed here:    0.2
## 2                                Man   52.8
## 3                         Non-binary    0.7
## 4                              Woman   46.3
```

```
##                            Percentage Race
## 1 American Indian or Alaskan Native  0.3
## 2           Asian / Pacific Islander  7.5
## 3          Black or African American  8.4
## 4                  Hispanic / Latinx  4.6
## 5                  White / Caucasian 79.2
```

```
## # A tibble: 1 x 2
##   mean_age sd_age
##      <dbl>  <dbl>
## 1     43.8   12.1
```

Primary Analysis

```r
# primary model, no encouragement
r1 <- lm(female ~ gender_feedback * encouragement, data=d0)
robust_summary(r1)
```

```
##
## Call:
## lm(formula = female ~ gender_feedback * encouragement, data = d0)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -0.4980 -0.4257 -0.2360  0.5020  0.7640
##
## Coefficients:
##                               Estimate Std. Error t value Pr(>|t|)
## (Intercept)                    0.23600    0.02696   8.753  < 2e-16 ***
## gender_feedback                0.18970    0.04143   4.578 5.28e-06 ***
## encouragement                  0.05306    0.03919   1.354    0.176
## gender_feedback:encouragement  0.01919    0.05962   0.322    0.748
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.4698 on 996 degrees of freedom
## Multiple R-squared:  0.04712,    Adjusted R-squared:  0.04425
## F-statistic: 16.42 on 3 and 996 DF,  p-value: 2.032e-10
```

Secondary Analysis

```
## episodes feedback
r_episodes <- lm(episodes_pick ~ episodes_shown*encouragement, data=d0)

# Display the summary with robust standard errors
robust_summary(r_episodes)
```

```
##
## Call:
## lm(formula = episodes_pick ~ episodes_shown * encouragement,
##     data = d0)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -0.3864 -0.3552 -0.3261  0.6448  0.7381
##
## Coefficients:
##                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)                   0.38636    0.05250   7.359 3.87e-13 ***
## episodes_shown               -0.03113    0.05759  -0.541   0.5889
## encouragement                -0.12446    0.07151  -1.740   0.0821 .
## episodes_shown:encouragement  0.09537    0.07876   1.211   0.2262
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.4731 on 996 degrees of freedom
## Multiple R-squared:  0.003901,   Adjusted R-squared:  0.000901
## F-statistic:   1.3 on 3 and 996 DF,  p-value: 0.273
```

```
robust_confint(r_episodes)
```

```
##                                 2.5 %     97.5 %
## (Intercept)                  0.28333643 0.48939084
## episodes_shown              -0.14414163 0.08187665
## encouragement               -0.26478483 0.01586708
## episodes_shown:encouragement -0.05918771 0.24992135
```

```
## duration feedback
r_duration <- lm(duration_pick ~ duration_shown*encouragement, data=d0)

# Display the summary with robust standard errors
robust_summary(r_duration)
```

```
##
## Call:
## lm(formula = duration_pick ~ duration_shown * encouragement,
##     data = d0)
##
## Residuals:
```

```
##     Min      1Q  Median      3Q     Max
## -0.1832 -0.1832 -0.1667 -0.1667  0.9333
##
## Coefficients:
##                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)                  0.085714   0.048711   1.760   0.0788 .
## duration_shown               0.097475   0.051929   1.877   0.0608 .
## encouragement               -0.019048   0.061798  -0.308   0.7580
## duration_shown:encouragement  0.002525   0.066699   0.038   0.9698
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.3726 on 996 degrees of freedom
## Multiple R-squared:  0.005793,   Adjusted R-squared:  0.002799
## F-statistic: 1.935 on 3 and 996 DF,  p-value: 0.1223
```

```
robust_confint(r_duration)
```

```
##                                    2.5 %    97.5 %
## (Intercept)                -0.009872717 0.1813013
## duration_shown             -0.004426834 0.1993776
## encouragement              -0.140316871 0.1022216
## duration_shown:encouragement -0.128362575 0.1334118
```

```
## years feedback
r_years <- lm(years_pick ~ years_shown*encouragement, data=d0)

# Display the summary with robust standard errors
robust_summary(r_years)
```

```
##
## Call:
## lm(formula = years_pick ~ years_shown * encouragement, data = d0)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -0.6638 -0.5610  0.3362  0.4390  0.5013
##
## Coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 0.57937    0.04433  13.069   <2e-16 ***
## years_shown                -0.08071    0.05137  -1.571    0.116
## encouragement               0.08443    0.06263   1.348    0.178
## years_shown:encouragement -0.02205    0.07238  -0.305    0.761
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.4956 on 996 degrees of freedom
## Multiple R-squared:  0.01066,    Adjusted R-squared:  0.007683
## F-statistic: 3.578 on 3 and 996 DF,  p-value: 0.01357
```

```r
robust_confint(r_years)
```

```
##                                 2.5 %     97.5 %
## (Intercept)                0.49237289 0.66635727
## years_shown               -0.18151474 0.02010361
## encouragement             -0.03847683 0.20733288
## years_shown:encouragement -0.16409280 0.11999564
```

```r
## interaction of base gender
# primary model
r_interaction <- lm(female ~ gender_feedback*base_gender, data=d0)


# Display the summary with robust standard errors
robust_summary(r_interaction)
```

```
##
## Call:
## lm(formula = female ~ gender_feedback * base_gender, data = d0)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -0.6215 -0.3277 -0.2363  0.4977  0.8552
##
## Coefficients:
##                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)                   0.32773    0.03658   8.959  < 2e-16 ***
## gender_feedback               0.29373    0.05213   5.634 2.29e-08 ***
## base_gender                  -0.04573    0.02031  -2.252   0.0245 *
## gender_feedback:base_gender -0.07343    0.02879  -2.550   0.0109 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.4629 on 996 degrees of freedom
## Multiple R-squared:  0.07478,    Adjusted R-squared:  0.07199
## F-statistic: 26.83 on 3 and 996 DF,  p-value: < 2.2e-16
```

Figure S1A Code

```
dgender_plot <- d0_no_encouragement |>
  select(gender_feedback, female) |>
  group_by(gender_feedback, female) |>
  summarise(n = n()) |>
  mutate(freq = n / sum(n)) |>
  filter(female == 1) |>
  mutate(sd = sqrt((freq*(1-freq))/n)*100,
         se = case_when(gender_feedback==0 ~ coef(summary(r1))[, "Std. Error"][1]*100,
                        TRUE ~ coef(robust_summary(r1))[, "Std. Error"][2]*100)) |>
  mutate(gender_feedback = case_when(gender_feedback==1 ~ "\"Treatment\"",
                          TRUE ~ "\"Control\"")) |>
  rename(Condition = gender_feedback)

## dataframe for CEO information

dduration_plot <- d0_no_encouragement |>
  select(duration_shown, duration_pick) |>
  group_by(duration_shown, duration_pick) |>
  summarise(n = n()) |>
  mutate(freq = n / sum(n)) |>
  filter(duration_pick == 1) |>
  mutate(sd = sqrt((freq*(1-freq))/n)*100,
         se = case_when(duration_shown==0 ~ coef(robust_summary(r_duration))[, "Std.
         ↪  Error"][1]*100,
                        TRUE ~ coef(robust_summary(r_duration))[, "Std. Error"][2]*100))
                         ↪  |>
  mutate(duration_shown = case_when(duration_shown==1 ~ "\"Treatment\"",
                          TRUE ~ "\"Control\"")) |>
  rename(Condition = duration_shown)

## dataframe for episodes information

depisodes_plot <- d0_no_encouragement |>
  select(episodes_shown, episodes_pick) |>
  group_by(episodes_shown, episodes_pick) |>
  summarise(n = n()) |>
  mutate(freq = n / sum(n)) |>
  filter(episodes_pick == 1) |>
  mutate(sd = sqrt((freq*(1-freq))/n)*100,
         se = case_when(episodes_shown==0 ~ coef(robust_summary(r_episodes))[, "Std.
         ↪  Error"][1]*100,
                        TRUE ~ coef(robust_summary(r_episodes))[, "Std. Error"][2]*100))
                         ↪  |>
  mutate(episodes_shown = case_when(episodes_shown==1 ~ "\"Treatment\"",
                          TRUE ~ "\"Control\"")) |>
  rename(Condition = episodes_shown)

## dataframe for years information

dyears_plot <- d0_no_encouragement |>
  select(years_shown, years_pick) |>
```

```
  group_by(years_shown, years_pick) |>
  summarise(n = n()) |>
  mutate(freq = n / sum(n)) |>
  filter(years_pick == 1) |>
  mutate(sd = sqrt((freq*(1-freq))/n)*100,
         se = case_when(years_shown==0 ~ coef(robust_summary(r_years))[, "Std.
          ↪  Error"][1]*100,
                        TRUE ~ coef(robust_summary(r_years))[, "Std. Error"][2]*100)) |>
  mutate(years_shown = case_when(years_shown==1 ~ "\"Treatment\"",
                          TRUE ~ "\"Control\"")) |>
  rename(Condition = years_shown)

df_combined <- bind_rows(
  dduration_plot %>% mutate(Category = "\nOver 3\nHours"),
  dyears_plot %>% mutate(Category = "\nStarted 3\nYears Ago"),
  depisodes_plot %>% mutate(Category = "\nWith Over\n300 Episodes"),
  dgender_plot %>% mutate(Category = "\nWith Female\nHost")
, .id = "id") %>%
  mutate(Category = factor(Category, levels = c("\nOver 3\nHours", '\nStarted 3\nYears
  ↪  Ago', "\nWith Over\n300 Episodes", '\nWith Female\nHost')))

p_combined_A <- ggplot(df_combined, aes(x = Condition, y = freq*100, fill = Condition)) +
  geom_bar(stat="identity", width = 0.85, position = position_dodge(width = 0.7)) +
  geom_text(data = df_combined %>% filter(!(Category == "\nOver 3\nHours" & Condition ==
  ↪  "\"Control\"")),
          aes(label=paste0(sprintf("%.1f", freq*100),"%")),
          position=position_dodge(width=0.7), vjust=5, size = 4, color = "white")+
  geom_errorbar(aes(ymin=freq*100-se, ymax=freq*100+se), width = .1, position =
  ↪  position_dodge(width = 0.7)) +
  facet_wrap(~factor(Category, c("\nOver 3\nHours", '\nStarted 3\nYears Ago', "\nWith
  ↪  Over\n300 Episodes", '\nWith Female\nHost')), nrow = 1, strip.position = "bottom")
  ↪  +
  geom_segment(data = df_combined %>% filter(Category %in% c("\nOver 3\nHours", "\nWith
  ↪  Over\n300 Episodes", '\nWith Female\nHost') & Condition == "\"Treatment\""),
               aes(x = 1, xend = 2, y = freq*100 + se + 5, yend = freq*100 + se + 5),
               inherit.aes = FALSE) +
    geom_segment(data = df_combined %>% filter(Category %in% c('\nStarted 3\nYears Ago')
    ↪  & Condition == "\"Control\""),
               aes(x = 1, xend = 2, y = freq*100 + se + 5, yend = freq*100 + se + 5),
               inherit.aes = FALSE) +
  geom_text(data = df_combined %>% filter(Category %in% c("\nWith Over\n300 Episodes") &
  ↪  Condition == "\"Treatment\""),
            aes(x = 1.5, xend = 1.5, y = freq*100 + se + 7, yend = freq*100 + se + 7,
            ↪  label = "n.s."),
            inherit.aes = FALSE, vjust = 0) +
    geom_text(data = df_combined %>% filter(Category %in% c("\nOver 3\nHours") &
    ↪  Condition == "\"Treatment\""),
            aes(x = 1.5, xend = 1.5, y = freq*100 + se + 7, yend = freq*100 + se + 7,
            ↪  label = "+"),
            inherit.aes = FALSE, vjust = 0) +
    geom_text(data = df_combined %>% filter(Category %in% c('\nStarted 3\nYears Ago') &
    ↪  Condition == "\"Control\""),
            aes(x = 1.5, xend = 1.5, y = freq*100 + se + 5, yend = freq*100 + se + 5,
            ↪  label = "*"),
```

```
            inherit.aes = FALSE, vjust = 0) +
  geom_text(data = df_combined %>% filter(Category == '\nWith Female\nHost' & Condition
  ↪  == "\"Treatment\""),
            aes(x = 1.5, xend = 1.5, y = freq*100 + se + 5, yend = freq*100 + se + 5,
            ↪  label = "***"),
            inherit.aes = FALSE, vjust = 0) +
  geom_text(data = df_combined %>% filter(Category == "\nOver 3\nHours" & Condition ==
  ↪  "\"Control\""),
          aes(label = paste0(sprintf("%.1f", freq*100), "%"),
              x = Condition, y = freq*100 + se + 4), # offset to adjust the position
          inherit.aes = FALSE, vjust = -0.5, size = 4, color = "black") +

  theme_bw() +
  scale_fill_manual(values = c("#535350", "#c18354"), labels = c("No feedback", "Feedback
  ↪  provided"), "Feedback") +
  scale_y_continuous(labels = function(x) paste0(x,"%"), limits = c(0,85)) +
  scale_x_discrete(labels = c("\"Control\"" = "Not\nShown", "\"Treatment\"" = "Shown")) +
  labs(x= "Feedback on % of podcasts...", y = "% of New Podcasts with the Target
  ↪  Attribute",
       caption = 'Note: Error Bars are SEs', title = "The Effect of Getting Feedback on
       ↪  Your Panel's Composition") +
  theme(plot.caption = element_text(face = "italic"),
        legend.position = "none",
        #legend.position = c(0.5, 0.85),
        legend.title = element_blank(),
        legend.direction = "horizontal",
        legend.text = element_text(size = 14),
        legend.key.size = unit(7, 'mm'),
        legend.background = element_rect(fill = "white"),
        panel.grid.minor = element_blank(),
        panel.grid = element_blank(),
        panel.border = element_rect(fill= NA, color = "white"),
        plot.background = element_rect(fill = "white"),
        panel.background = element_rect(fill = "white"),
        axis.title.x = element_text(face="bold", size = 13, vjust = 19),
        plot.title = element_blank(),
        axis.title.y = element_text(size = 14, color = "black"),
        axis.text.x = element_blank(),
        axis.ticks = element_blank(),
        axis.text.y = element_text(size = 14, color = "black"),
        strip.text = element_text(size = 14, color = "black"),
        strip.background = element_rect(color = "white", fill = "white"))

#p_combined_A
```

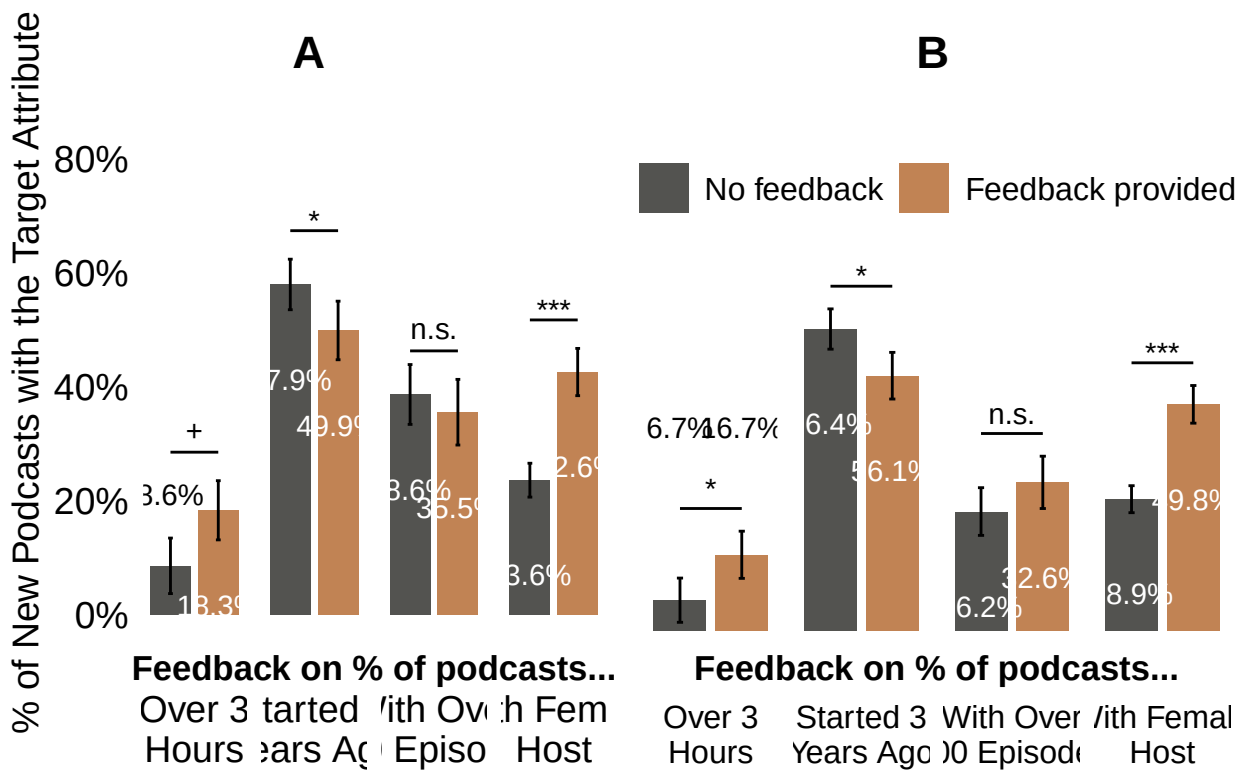
Figure S1B Code

```
dgender_plot <- d0_w_encouragement |>
  select(gender_feedback, female) |>
  group_by(gender_feedback, female) |>
  summarise(n = n()) |>
  mutate(freq = n / sum(n)) |>
  filter(female == 1) |>
  mutate(sd = sqrt((freq*(1-freq))/n)*100,
         se = case_when(gender_feedback==0 ~ coef(summary(r1))[, "Std. Error"][1]*100,
                        TRUE ~ coef(robust_summary(r1))[, "Std. Error"][2]*100)) |>
  mutate(gender_feedback = case_when(gender_feedback==1 ~ "\"Treatment\"",
                          TRUE ~ "\"Control\"")) |>
  rename(Condition = gender_feedback)

## dataframe for CEO information

dduration_plot <- d0_w_encouragement |>
  select(duration_shown, duration_pick) |>
  group_by(duration_shown, duration_pick) |>
  summarise(n = n()) |>
  mutate(freq = n / sum(n)) |>
  filter(duration_pick == 1) |>
  mutate(sd = sqrt((freq*(1-freq))/n)*100,
         se = case_when(duration_shown==0 ~ coef(robust_summary(r_duration))[, "Std.
         ↪  Error"][1]*100,
                        TRUE ~ coef(robust_summary(r_duration))[, "Std. Error"][2]*100))
                         ↪  |>
  mutate(duration_shown = case_when(duration_shown==1 ~ "\"Treatment\"",
                          TRUE ~ "\"Control\"")) |>
  rename(Condition = duration_shown)

## dataframe for episodes information

depisodes_plot <- d0_w_encouragement |>
  select(episodes_shown, episodes_pick) |>
  group_by(episodes_shown, episodes_pick) |>
  summarise(n = n()) |>
  mutate(freq = n / sum(n)) |>
  filter(episodes_pick == 1) |>
  mutate(sd = sqrt((freq*(1-freq))/n)*100,
         se = case_when(episodes_shown==0 ~ coef(robust_summary(r_episodes))[, "Std.
         ↪  Error"][1]*100,
                        TRUE ~ coef(robust_summary(r_episodes))[, "Std. Error"][2]*100))
                         ↪  |>
  mutate(episodes_shown = case_when(episodes_shown==1 ~ "\"Treatment\"",
                          TRUE ~ "\"Control\"")) |>
  rename(Condition = episodes_shown)

## dataframe for years information

dyears_plot <- d0_w_encouragement |>
  select(years_shown, years_pick) |>
```

```
  group_by(years_shown, years_pick) |>
  summarise(n = n()) |>
  mutate(freq = n / sum(n)) |>
  filter(years_pick == 1) |>
  mutate(sd = sqrt((freq*(1-freq))/n)*100,
         se = case_when(years_shown==0 ~ coef(robust_summary(r_years))[, "Std.
         ↪  Error"][1]*100,
                        TRUE ~ coef(robust_summary(r_years))[, "Std. Error"][2]*100)) |>
  mutate(years_shown = case_when(years_shown==1 ~ "\"Treatment\"",
                          TRUE ~ "\"Control\"")) |>
  rename(Condition = years_shown)

df_combined <- bind_rows(
  dduration_plot %>% mutate(Category = "\nOver 3\nHours"),
  dyears_plot %>% mutate(Category = "\nStarted 3\nYears Ago"),
  depisodes_plot %>% mutate(Category = "\nWith Over\n300 Episodes"),
  dgender_plot %>% mutate(Category = "\nWith Female\nHost")
, .id = "id") %>%
  mutate(Category = factor(Category, levels = c("\nOver 3\nHours", '\nStarted 3\nYears
  ↪  Ago', "\nWith Over\n300 Episodes", '\nWith Female\nHost')))

p_combined_B <- ggplot(df_combined, aes(x = Condition, y = freq*100, fill = Condition)) +
  geom_bar(stat="identity", width = 0.85, position = position_dodge(width = 0.7)) +
  geom_text(data = df_combined %>% filter(!(Category == "\nOver 3\nHours")),
          aes(label=paste0(sprintf("%.1f", freq*100),"%")),
          position=position_dodge(width=0.7), vjust=5, size = 4, color = "white")+
  geom_errorbar(aes(ymin=freq*100-se, ymax=freq*100+se), width = .1, position =
  ↪  position_dodge(width = 0.7)) +
  facet_wrap(~factor(Category, c("\nOver 3\nHours", '\nStarted 3\nYears Ago', "\nWith
  ↪  Over\n300 Episodes", '\nWith Female\nHost')), nrow = 1, strip.position = "bottom")
  ↪  +
  geom_segment(data = df_combined %>% filter(Category %in% c("\nOver 3\nHours", "\nWith
  ↪  Over\n300 Episodes", '\nWith Female\nHost') & Condition == "\"Treatment\""),
               aes(x = 1, xend = 2, y = freq*100 + se + 5, yend = freq*100 + se + 5),
               inherit.aes = FALSE) +
    geom_segment(data = df_combined %>% filter(Category %in% c('\nStarted 3\nYears Ago')
    ↪  & Condition == "\"Control\""),
               aes(x = 1, xend = 2, y = freq*100 + se + 5, yend = freq*100 + se + 5),
               inherit.aes = FALSE) +
  geom_text(data = df_combined %>% filter(Category %in% c("\nWith Over\n300 Episodes") &
  ↪  Condition == "\"Treatment\""),
            aes(x = 1.5, xend = 1.5, y = freq*100 + se + 7, yend = freq*100 + se + 7,
            ↪  label = "n.s."),
            inherit.aes = FALSE, vjust = 0) +
    geom_text(data = df_combined %>% filter(Category %in% c("\nOver 3\nHours") &
    ↪  Condition == "\"Treatment\""),
            aes(x = 1.5, xend = 1.5, y = freq*100 + se + 7, yend = freq*100 + se + 7,
            ↪  label = "*"),
            inherit.aes = FALSE, vjust = 0) +
    geom_text(data = df_combined %>% filter(Category %in% c('\nStarted 3\nYears Ago') &
    ↪  Condition == "\"Control\""),
            aes(x = 1.5, xend = 1.5, y = freq*100 + se + 5, yend = freq*100 + se + 5,
            ↪  label = "*"),
```

```
            inherit.aes = FALSE, vjust = 0) +
  geom_text(data = df_combined %>% filter(Category == '\nWith Female\nHost' & Condition
  ↪  == "\"Treatment\""),
            aes(x = 1.5, xend = 1.5, y = freq*100 + se + 5, yend = freq*100 + se + 5,
            ↪  label = "***"),
            inherit.aes = FALSE, vjust = 0) +
  geom_text(data = df_combined %>% filter(Category == "\nOver 3\nHours"),
          aes(label = paste0(sprintf("%.1f", freq*100), "%"),
              x = Condition, y = 40), # offset to adjust the position
          inherit.aes = FALSE, vjust = -0.5, size = 4, color = "black") +

  theme_bw() +
  scale_fill_manual(values = c("#535350", "#c18354"), labels = c("No feedback", "Feedback
  ↪  provided"), "Feedback") +
  scale_y_continuous(labels = function(x) paste0(x,"%"), limits = c(0,110)) +
  scale_x_discrete(labels = c("\"Control\"" = "Not\nShown", "\"Treatment\"" = "Shown")) +
  labs(x = "Feedback on % of podcasts...", y = "% of New Podcasts with the Target
  ↪  Attribute",
       caption = 'Note: Error Bars are SEs', title = "The Effect of Getting Feedback on
       ↪  Your Panel's Composition") +
  theme(plot.caption = element_text(face = "italic"),
        legend.position = c(0.5, 0.85),
        legend.title = element_blank(),
        legend.direction = "horizontal",
        legend.text = element_text(size = 12),
        legend.key.size = unit(7, 'mm'),
        legend.background = element_rect(fill = "white"),
        panel.grid.minor = element_blank(),
        panel.grid = element_blank(),
        panel.border = element_rect(fill= NA, color = "white"),
        plot.background = element_rect(fill = "white"),
        panel.background = element_rect(fill = "white"),
        axis.title.x = element_text(face="bold", size = 13, vjust = 19),
        plot.title = element_blank(),
        axis.title.y = element_blank(),  # Remove y-axis title
        axis.text.x = element_blank(),
        axis.ticks = element_blank(),
        axis.text.y = element_blank(),  # Remove y-axis text
        axis.ticks.y = element_blank(),  # Remove y-axis ticks
        strip.text = element_text(size = 12, color = "black"),
        strip.background = element_rect(color = "white", fill = "white"))

#p_combined_B
# Create separate plots for the labels
label_A <- ggplot() +
  annotate("text", x = 0, y = 0, label = "A", size = 6, fontface = "bold") +
  theme_void()

label_B <- ggplot() +
  annotate("text", x = 0, y = 0, label = "B", size = 6, fontface = "bold") +
  theme_void()

# Combine the main plots and labels using grid.arrange()
```

```
combined_plot <- grid.arrange(
  arrangeGrob(label_A, p_combined_A, ncol = 1, heights = c(0.1, 1)),
  arrangeGrob(label_B, p_combined_B, ncol = 1, heights = c(0.1, 1)),
  ncol = 2
)
```



Note: Error Bars are SEs

Note: Error Bars are SEs

```
#ggsave("FigureS1.pdf", combined_plot, width = 16, height = 7, units = "in", device =
↪  cairo_pdf, family = "Times New Roman")
```