Replication material for Beyond the Myth of Legality? Framing Effects and Public Reactions to High Court Decisions in Europe

```
knitr::opts_chunk$set(echo = TRUE, dpi = 300,  dev='png', fig.path = "figures/")
#add path here
```

```
# packages ------------------------------------------------------------------
library(tidyverse)
library(broom)
library(readstata13)
library(survey)
library(srvyr)
library(jtools)
library(socviz)
library(stargazer)
library(mediation)
library(summarytools)
library(patchwork)
library(infer)
library(interactions)
library(mice)
```

Portuguese data

```
por_df <- readRDS("por_df.Rda")
```

Frames

```
#Recode frames
por_df <- por_df %>%
  mutate(frames = case_when(
    frames == 1 ~ "Legalistic",
    frames == 2 ~ "Policy",
    frames == 3 ~ "Partisan"
  ))

#Convert frames to factor and relevel
por_df <- por_df %>%
  mutate(frames = factor(frames,
                         levels = c("Partisan",
                                    "Legalistic",
                                    "Policy")))
```

Outcome

```
por_df <- por_df %>%
  mutate(
    outcome_char = case_when(
      outcome == 1 ~ "Constitutional, eliminate fees",
      outcome == 2 ~ "Unconstitutional, preserve fees"
    )
  )
```

Outcome favorability

```
#Generate outcome favorability
por_df <- por_df %>%
  mutate(
    favorable_outcome = case_when(
      outcome == 1 &
        feesopinion %in% 1:5 |
        outcome == 2 & feesopinion %in% 6:10 ~ "Favorable outcome",
      outcome == 1 &
        feesopinion %in% 6:10 |
        outcome == 2 & feesopinion %in% 1:5 ~ "Unfavorable outcome"
    )
  )

#Convert favorable outcome to factor and relevel
por_df <- por_df %>%
  mutate(favorable_outcome = factor(favorable_outcome,
                   levels = c("Unfavorable outcome",
                              "Favorable outcome")))
```

Norwegian data

```
nor_df <- readRDS("nor_df.Rda")

# rename variables
nor_df <- nor_df %>%
  rename(id = responseid,
         opinion = r19pad9,
         Legalistic = r19pad10a,
         Policy = r19pad10b,
         Partisan = r19pad10c,
         noviolation = r19pad11a,
         violation = r19pad11b
         )

# subset observations to our sample
nor_df <- nor_df %>%
  filter(!is.na(r19pad10_ran))

# recode missing observations on fairness and acceptability
nor_df <- nor_df %>%
  mutate(Legalistic = ifelse(Legalistic %in% 1:10, Legalistic, NA),
         Policy = ifelse(Policy %in% 1:10, Policy, NA),
         Partisan = ifelse (Partisan %in% 1:10, Partisan, NA),
         noviolation = ifelse(noviolation %in% 1:10, noviolation, NA),
         violation = ifelse(violation %in% 1:10, violation, NA))

# fairness equals score in legalistic if r9pad10_ran == 1, Policy if r9pad10_ran == 2, partis
an if r9pad10_ran == 3
nor_df <- nor_df %>%
  mutate(fairness = ifelse(r19pad10_ran == 1, Legalistic,
                           ifelse(r19pad10_ran == 2, Policy, Partisan)))

# acceptability equals score in noviolation if r19pad11_ran == 1, violation if r19pad11_ran =
= 2
nor_df <- nor_df %>%
  mutate(acceptability = ifelse(r19pad11_ran == 1, noviolation, violation))
```

Frames

```
#Recode frames
nor_df <- nor_df %>%
  mutate(frames = case_when(r19pad10_ran == 1 ~ "Legalistic",
                            r19pad10_ran == 2 ~ "Policy",
                            r19pad10_ran == 3 ~ "Partisan"))

#Convert frames to factor and relevel
nor_df <- nor_df %>%
  mutate(frames = factor(frames,
                         levels = c("Partisan",
                                    "Legalistic",
                                    "Policy")))
```

Outcome

```
#Outcome
nor_df <- nor_df %>%
  mutate(outcome = case_when(r19pad11_ran == 1 ~ "Constitutional",
                             r19pad11_ran == 2 ~ "Unconstitutional"))
```

Outcome favorability

```
#Generate outcome favorability ----------------------------------------
nor_df <- nor_df %>%
  mutate(
    favorable_outcome = case_when(
      outcome == "Constitutional" &
        opinion == 1 |
        outcome == "Unconstitutional" & opinion == 2 ~ "Favorable outcome",
      outcome == "Constitutional" &
        opinion == 2 |
        outcome == "Unconstitutional"  & opinion == 1 ~ "Unfavorable outcome"
    )
  )

#Convert favorable outcome to factor and relevel
nor_df <- nor_df %>%
  mutate(favorable_outcome = factor(favorable_outcome,
                                    levels = c("Unfavorable outcome",
                                               "Favorable outcome")))
```

Main results

Testing H1: Two-Sample t-Test for Equal Means in Perceived Fairness (comparing respondents exposed to legalistic and partisan frames).

```
#Portugal
por_df_h1 <- por_df %>%
  filter(frames == "Legalistic"|frames == "Partisan")

t_test(x = por_df_h1, formula = fairness ~ frames, order = c("Legalistic", "Partisan"), alter
native = "two-sided")
```

```
## # A tibble: 1 x 6
##   statistic  t_df    p_value alternative lower_ci upper_ci
##       <dbl> <dbl>      <dbl> <chr>          <dbl>    <dbl>
## 1      4.87  582. 0.00000146 two.sided      0.573     1.35
```

```
#To get difference in means
round(por_df_h1 %>% specify(fairness ~ frames) %>% calculate("diff in means", order = c("Lega
listic", "Partisan")), digits = 2)
```

```
## # A tibble: 1 x 1
##    stat
##   <dbl>
## 1  0.96
```

```
#Norway
nor_df_h1 <- nor_df %>%
  filter(frames == "Legalistic"|frames == "Partisan")

t_test(x = nor_df_h1, formula = fairness ~ frames, order = c("Legalistic", "Partisan"), alter
native = "two-sided")
```

```
## # A tibble: 1 x 6
##   statistic  t_df  p_value alternative lower_ci upper_ci
##       <dbl> <dbl>    <dbl> <chr>          <dbl>    <dbl>
## 1      14.0 1148. 5.13e-41 two.sided       1.78     2.37
```

```
#To get difference in means
round(nor_df_h1 %>% specify(fairness ~ frames) %>% calculate("diff in means", order = c("Lega
listic", "Partisan")), digits = 2)
```

```
## # A tibble: 1 x 1
##    stat
##   <dbl>
## 1  2.08
```

Testing H3: Two-Sample t-Test for Equal Means in Perceived Fairness (comparing respondents exposed to legalistic and Policy frames).

```
#Portugal
por_df_h3 <- por_df %>%
  filter(frames == "Legalistic"|frames == "Policy")

t_test(x = por_df_h3, formula = fairness ~ frames, order = c("Legalistic", "Policy"), alterna
tive = "two-sided")
```

```
## # A tibble: 1 x 6
##   statistic  t_df p_value alternative lower_ci upper_ci
##       <dbl> <dbl>   <dbl> <chr>          <dbl>    <dbl>
## 1     0.554  587.   0.580 two.sided     -0.272    0.486
```

```
#To get difference in means
round(por_df_h3 %>% specify(fairness ~ frames) %>% calculate("diff in means", order = c("Lega
listic", "Policy")), digits = 2)
```

```
## # A tibble: 1 x 1
##    stat
##   <dbl>
## 1  0.11
```

```
#Norway
nor_df_h3 <- nor_df %>%
  filter(frames == "Legalistic"|frames == "Policy")

t_test(x = nor_df_h3, formula = fairness ~ frames, order = c("Legalistic", "Policy"), alterna
tive = "two-sided")
```

```
## # A tibble: 1 x 6
##   statistic  t_df  p_value alternative lower_ci upper_ci
##       <dbl> <dbl>    <dbl> <chr>          <dbl>    <dbl>
## 1      3.87 1296. 0.000112 two.sided      0.251    0.767
```

```
#To get difference in means
round(nor_df_h3 %>% specify(fairness ~ frames) %>% calculate("diff in means", order = c("Lega
listic", "Policy")), digits = 2)
```

```
## # A tibble: 1 x 1
##    stat
##   <dbl>
## 1  0.51
```

Testing H5: Two-Sample t-Test for Equal Means in Perceived Fairness (comparing respondents exposed to Policy and partisan frames).

```
#Portugal
por_df_h5 <- por_df %>%
  filter(frames == "Partisan"|frames == "Policy")

t_test(x = por_df_h5, formula = fairness ~ frames, order = c("Policy", "Partisan"), alternati
ve = "two-sided")
```

```
## # A tibble: 1 x 6
##   statistic  t_df   p_value alternative lower_ci upper_ci
##       <dbl> <dbl>     <dbl> <chr>          <dbl>    <dbl>
## 1      4.45  598. 0.0000101 two.sided      0.477     1.23
```

```
#To get difference in means
round(por_df_h5 %>% specify(fairness ~ frames) %>% calculate("diff in means", order = c("Poli
cy", "Partisan")), digits = 2)
```

```
## # A tibble: 1 x 1
##    stat
##   <dbl>
## 1  0.85
```

```
#Norway
nor_df_h5 <- nor_df %>%
  filter(frames == "Partisan"|frames == "Policy")

t_test(x = nor_df_h5, formula = fairness ~ frames, order = c("Policy", "Partisan"), alternati
ve = "two-sided")
```

```
## # A tibble: 1 x 6
##   statistic  t_df  p_value alternative lower_ci upper_ci
##       <dbl> <dbl>    <dbl> <chr>          <dbl>    <dbl>
## 1      10.5 1177. 1.11e-24 two.sided       1.27     1.86
```

```
#To get difference in means
round(nor_df_h5 %>% specify(fairness ~ frames) %>% calculate("diff in means", order = c("Poli
cy", "Partisan")), digits = 2)
```

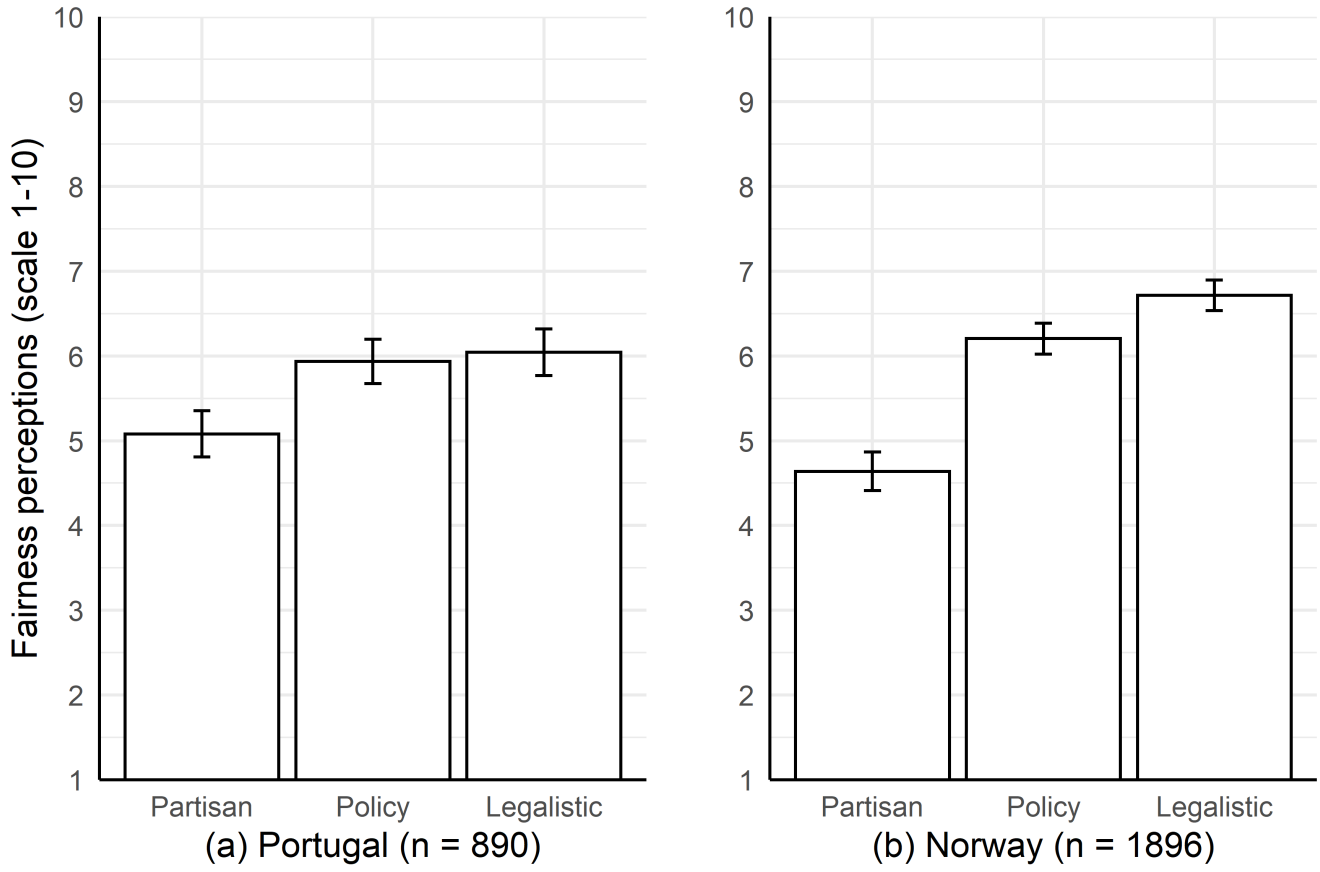
```
## # A tibble: 1 x 1
##    stat
##   <dbl>
## 1  1.57
```

Make Figure 2

```
#Portugal
por_df_srvyr <- por_df %>%
  as_survey_design(ids = id)

por_df_srvyr_summary <- por_df_srvyr %>%
  group_by(frames) %>%
  summarize(fairness = survey_mean(fairness, vartype = "ci", na.rm = T))

dodge <- position_dodge(width=0.7)

por_h1h3 <- por_df_srvyr %>%
  group_by(frames) %>%
  summarize(fairness = survey_mean(fairness, vartype = "ci", na.rm = T)) %>%
  ggplot(
    mapping = aes(
      x = reorder(frames, fairness),
      y = fairness,
      ymin = fairness_low,
      ymax = fairness_upp,
      fill = frames,
      color = frames
    )
  ) +
  geom_col(position = dodge,
           color = "black"
           ) +
  geom_errorbar(position = dodge, color = "black", width = 0.1) +
  scale_fill_manual(values=c("#FFFFFF", "#FFFFFF", "#FFFFFF")) +
  scale_y_continuous(
    breaks = c(1:10),
    expand = c(0, -1),
    limits=c(0,11)
    ) +
  labs(x = "(a) Portugal (n = 890)", y = "Fairness perceptions (scale 1-10)") +
  theme_minimal() +
  theme(legend.position = "none",
         axis.line = element_line())


#Norway

nor_df_srvyr <- nor_df %>%
  as_survey_design(ids = id)

nor_df_srvyr_summary <- nor_df_srvyr %>%
  group_by(frames) %>%
  summarize(fairness = survey_mean(fairness, vartype = "ci", na.rm = T))

nor_h1h3 <- nor_df_srvyr %>%
  group_by(frames) %>%
  summarize(fairness = survey_mean(fairness, vartype = "ci", na.rm = T)) %>%
  ggplot(
    mapping = aes(
      x = reorder(frames, fairness),
      y = fairness,
```

```
    ymin = fairness_low,
    ymax = fairness_upp,
    fill = frames,
    color = frames
  )
) +
geom_col(position = dodge,
         color = "black"
         ) +
geom_errorbar(position = dodge, color = "black", width = 0.1) +
scale_x_discrete(labels = scales::wrap_format(10)) +
scale_fill_manual(values=c("#FFFFFF", "#FFFFFF", "#FFFFFF")) +
scale_y_continuous(
  breaks = c(1:10),
  expand = c(0, -1),
  limits=c(0,11)
  ) +
labs(x = "(b) Norway (n = 1896)", y = "") +
theme_minimal() +
theme(legend.position = "none",
      axis.line = element_line())
```

Plot Figure 2



Mean fairness perceptions among (a) Portuguese and (b) Norwegian citizens exposed to partisan, legalistic and policy portrayals of judicial decision-making. 95% confidence intervals enclose the estimates.

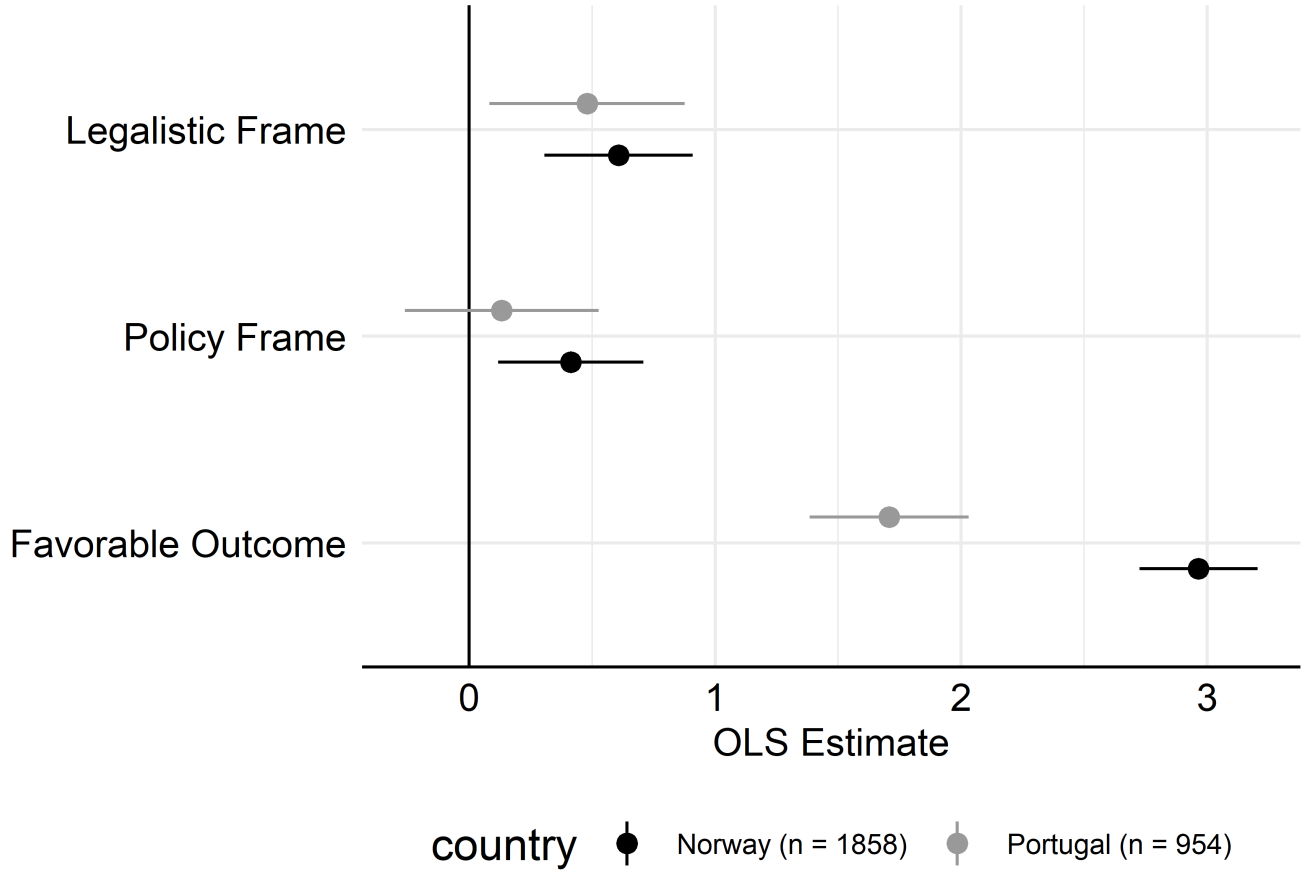
Testing H2, H4, H6, H8

```
#Portugal
por_lm_acceptability <- lm(acceptability ~ frames + favorable_outcome, data = por_df)
por_tidy_acceptability <- tidy(por_lm_acceptability, conf.int = TRUE)

#Test H4 directly
por_lm_h4 <- lm(acceptability ~ frames + favorable_outcome, data = por_df[por_df$frames != 'P
artisan',])
por_h4_tidy <- tidy(por_lm_h4, conf.int = TRUE)

#Norway
nor_lm_acceptability <- lm(acceptability ~ frames + favorable_outcome, data = nor_df)
nor_tidy_acceptability <- tidy(nor_lm_acceptability, conf.int = TRUE)

#Test H4 directly
nor_lm_h4 <- lm(acceptability ~ frames + favorable_outcome, data = nor_df[nor_df$frames != 'P
artisan',])
nor_h4_tidy <- tidy(nor_lm_h4, conf.int = TRUE)
```

Make Figure 3

```
# Portugal
# remove prefix frames and favorable outcome
por_tidy_acceptability <- subset(por_tidy_acceptability, term %nin% "(Intercept)")
por_tidy_acceptability$nicelabs <- prefix_strip(por_tidy_acceptability$term, "frames|favorabl
e_outcome")

por_tidy_acceptability <- por_tidy_acceptability %>%
  mutate(nicelabs = case_when(nicelabs == "Legalistic" ~ "Legalistic Frame",
                   nicelabs == "Policy" ~ "Policy Frame",
                   nicelabs == "Favorable Outcome" ~ "Favorable Outcome"))

# Norway
nor_tidy_acceptability <- subset(nor_tidy_acceptability, term %nin% "(Intercept)")
nor_tidy_acceptability$nicelabs <- prefix_strip(nor_tidy_acceptability$term, "frames|favorabl
e_outcome")

nor_tidy_acceptability <- nor_tidy_acceptability %>%
  mutate(nicelabs = case_when(nicelabs == "Legalistic" ~ "Legalistic Frame",
                   nicelabs == "Policy" ~ "Policy Frame",
                   nicelabs == "Favorable Outcome" ~ "Favorable Outcome"))
```

Plot Figure 3



The effects of framing (partisan as reference group) and outcome (unfavorable outcome as reference group) on acceptability perceptions (1= “completely unacceptable”, 10= “completely acceptable”) among Portuguese and Norwegian citizens. 95% confidence intervals enclose the OLS estimates.

Contolling for fairness perceptions - as reported in footnote 7 in manuscript

```
#Portugal
por_lm_acceptability_fairness <- lm(acceptability ~ frames + favorable_outcome + fairness, da
ta = por_df)

#Norway
nor_lm_acceptability_fairness <- lm(acceptability ~ frames + favorable_outcome + fairness, da
ta = nor_df)
```

Supplementary appendix

Appendix Table A1 - Portugal

```
por_df %>%
   dplyr::select(feesopinion, frames, fairness, outcome_char, favorable_outcome, acceptabilit
y) %>%
   dfSummary(dfSummary.varnumbers = FALSE, plain.ascii = FALSE, style = "grid",
           dfSummary.graph.col = FALSE)
```

Data Frame Summary

por_df

Dimensions: 1215 x 6
Duplicates: 453

No	Variable	Stats / Values	Freqs (% of Valid)	Graph	Valid	Missing
1	feesopinion [numeric]	Mean (sd) : 4 (2.8) min < med < max: 1 < 3 < 10 IQR (CV) : 4 (0.7)	1 : 287 (24.1%) 2 : 236 (19.8%) 3 : 124 (10.4%) 4 : 59 (5.0%) 5 : 185 (15.5%) 6 : 49 (4.1%) 7 : 68 (5.7%) 8 : 69 (5.8%) 9 : 23 (1.9%) 10 : 93 (7.8%)	IIII III II III I I I	1193 (98.19%)	22 (1.81%)
2	frames [factor]	1. Partisan 2. Legalistic 3. Policy	403 (33.2%) 404 (33.2%) 408 (33.6%)	IIIIII IIIIII IIIIII	1215 (100%)	0 (0%)
3	fairness [numeric]	Mean (sd) : 5.7 (2.4) min < med < max: 1 < 5 < 10 IQR (CV) : 2 (0.4)	1 : 43 (4.8%) 2 : 55 (6.2%) 3 : 61 (6.8%) 4 : 56 (6.3%) 5 : 272 (30.6%) 6 : 111 (12.5%) 7 : 78 (8.8%) 8 : 90 (10.1%) 9 : 32 (3.6%) 10 : 92 (10.3%)	 I I I IIIIII II I II II	890 (73.25%)	325 (26.75%)
4	outcome_char [character]	1. Constitutional, eliminate 2. Unconstitutional, preserv	607 (50.0%) 608 (50.0%)	IIIIIIIII IIIIIIIIII	1215 (100%)	0 (0%)
5	favorable_outcome [factor]	1. Unfavorable outcome 2. Favorable outcome	598 (50.1%) 595 (49.9%)	IIIIIIIIII IIIIIIIII	1193 (98.19%)	22 (1.81%)
6	acceptability [numeric]	Mean (sd) : 5.8 (2.7) min < med < max: 1 < 5 < 10 IQR (CV) : 4 (0.5)	1 : 60 (6.3%) 2 : 71 (7.4%) 3 : 69 (7.2%) 4 : 85 (8.9%) 5 : 211 (22.1%) 6 : 85 (8.9%) 7 : 73 (7.6%) 8 : 120 (12.5%) 9 : 54 (5.6%) 10 : 129 (13.5%)	I I I I IIII I I II I II	957 (78.77%)	258 (21.23%)

Appendix Table A2 - Norway

```
nor_df %>%
  mutate(oilopinion = ifelse(opinion == 1, "It should be permitted",
                                          ifelse(opinion == 2, "It should be prohibited", NA
))) %>%
   dplyr::select(oilopinion, frames, fairness, outcome, favorable_outcome, acceptability) %>%
   dfSummary(dfSummary.varnumbers = FALSE, plain.ascii = FALSE, style = "grid",
           dfSummary.graph.col = FALSE)
```

Data Frame Summary

nor_df

Dimensions: 1951 x 6
Duplicates: 1308

No	Variable	Stats / Values	Freqs (% of Valid)	Graph	Valid	Missing
1	oilopinion [character]	1. It should be permitted 2. It should be prohibited	775 (40.8%) 1125 (59.2%)	IIIIIIII IIIIIIIIIII	1900 (97.39%)	51 (2.61%)
2	frames [factor]	1. Partisan 2. Legalistic 3. Policy	607 (31.1%) 644 (33.0%) 700 (35.9%)	IIIIII IIIIII IIIIIII	1951 (100%)	0 (0%)
3	fairness [numeric]	Mean (sd) : 5.9 (2.7) min < med < max: 1 < 6 < 10 IQR (CV) : 3 (0.5)	1 : 199 (10.5%) 2 : 58 (3.1%) 3 : 105 (5.5%) 4 : 88 (4.6%) 5 : 476 (25.1%) 6 : 157 (8.3%) 7 : 235 (12.4%) 8 : 241 (12.7%) 9 : 100 (5.3%) 10 : 237 (12.5%)	II I IIIII I II II I II	1896 (97.18%)	55 (2.82%)
4	outcome [character]	1. Constitutional 2. Unconstitutional	958 (49.2%) 990 (50.8%)	IIIIIIIII IIIIIIIIII	1948 (99.85%)	3 (0.15%)
5	favorable_outcome [factor]	1. Unfavorable outcome 2. Favorable outcome	943 (49.7%) 954 (50.3%)	IIIIIIIII IIIIIIIIII	1897 (97.23%)	54 (2.77%)
6	acceptability [numeric]	Mean (sd) : 6.4 (3) min < med < max: 1 < 7 < 10 IQR (CV) : 6 (0.5)	1 : 192 (10.1%) 2 : 81 (4.3%) 3 : 123 (6.5%) 4 : 100 (5.3%) 5 : 266 (14.0%) 6 : 108 (5.7%) 7 : 186 (9.8%) 8 : 239 (12.6%) 9 : 126 (6.6%) 10 : 476 (25.1%)	II I I II I I II I IIIII	1897 (97.23%)	54 (2.77%)

Appendix section B2 - Perceived fairness as mediator

```
# Portugal
#The mediation package doesn't deal with missigness, so here we restrict the dataset to cases without NAs
por_df_med <- por_df[complete.cases(por_df[,c('acceptability', 'frames', 'fairness')]),]

total_effect<-lm(acceptability ~ frames, por_df_med)
summary(total_effect)
iv_med<-lm(fairness ~ frames, por_df_med)
summary(iv_med)
med_dv<-lm(acceptability ~ fairness+frames, por_df_med) #Including IV here
summary(med_dv)
```

```
set.seed(1234)
results <- mediate(iv_med, med_dv, treat="frames", mediator="fairness")
summary(results)
```

```
##
## Causal Mediation Analysis
##
## Quasi-Bayesian Confidence Intervals
##
##                 Estimate 95% CI Lower 95% CI Upper p-value
## ACME            0.507403     0.302609         0.70  <2e-16 ***
## ADE             0.000892    -0.372065         0.38   0.966
## Total Effect    0.508295     0.110782         0.91   0.016 *
## Prop. Mediated  0.977994     0.521038         3.39   0.016 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Sample Size Used: 860
##
##
## Simulations: 1000
```

```
# Norway
#The mediation package doesn't deal with missigness, so here we restrict the dataset to cases without NAs
nor_df_med <- nor_df[complete.cases(nor_df[,c('acceptability', 'frames', 'fairness')]),]

total_effect<-lm(acceptability ~ frames, nor_df_med)
summary(total_effect)
iv_med<-lm(fairness ~ frames, nor_df_med)
summary(iv_med)
med_dv<-lm(acceptability ~ fairness+frames, nor_df_med) #Including IV here
summary(med_dv)
```

```
set.seed(1234)
nor_results <- mediate(iv_med, med_dv, treat="frames", mediator="fairness")
summary(nor_results)
```

```
##
## Causal Mediation Analysis
##
## Quasi-Bayesian Confidence Intervals
##
##                Estimate 95% CI Lower 95% CI Upper p-value
## ACME              0.865        0.710         1.02  <2e-16 ***
## ADE              -0.262       -0.582         0.06    0.12
## Total Effect      0.602        0.293         0.93  <2e-16 ***
## Prop. Mediated    1.428        0.932         2.97  <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Sample Size Used: 1879
##
##
## Simulations: 1000
```

Appendix Table B4

```
#Save tables as word-files
stargazer(por_lm_acceptability, por_lm_h4, por_lm_acceptability_fairness, nor_lm_acceptabilit
y, nor_lm_h4, nor_lm_acceptability_fairness,
          type = "html",
          star.char = c("*", "**", "***"),
          star.cutoffs = c(.05, .01, .001),
          style = "apsr",
          title = "Table #. The effect of framing and favorable outcome on outcome acceptabil
ity, complement to Figure 2",
          header = FALSE,
          covariate.labels = c("Legalistic", "Policy", "Favorable outcome", "Fairness"),
          single.row = TRUE,
          omit.stat = c("f", "ser", "rsq", "adj.rsq"),
          out = "acceptability_hypotheses.doc")
```

Appendix table B5 - Missing values Portugal

```
#Missing fairness
por_na_fairness <- lm(is.na(fairness) ~ frames, data = por_df)
por_na_fairness2 <- lm(is.na(fairness) ~ frames, data = por_df[por_df$frames != 'Partisan',])

#Missing acceptance
por_na_acceptance_frames <- lm(is.na(acceptability)~ frames, data = por_df)
por_na_acceptance_frames2 <- lm(is.na(acceptability) ~ frames, data = por_df[por_df$frames !=
'Partisan',])
por_na_acceptance_favorableoutcome <- lm(is.na(acceptability)~ favorable_outcome, data = por_
df)
```

```
stargazer(por_na_fairness, por_na_fairness2, por_na_acceptance_frames,por_na_acceptance_frame
s2, por_na_acceptance_favorableoutcome,
          type = "html",
          star.char = c("*", "**", "***"),
          star.cutoffs = c(.05, .01, .001),
          style = "apsr",
          title = "Table #. ",
          header = FALSE,
          covariate.labels = c("Legalistic", "Policy", "Favorable outcome"),
          single.row = TRUE,
          omit.stat = c("f", "ser", "rsq", "adj.rsq"),
          out = "por_missing.doc")
```

Appendix table B6 - Missing values Norway

```
#Missing fairness
nor_na_fairness <- glm(is.na(fairness) ~ frames, data = nor_df, family = binomial)
nor_na_fairness2 <- glm(is.na(fairness) ~ frames, data = nor_df[nor_df$frames != 'Partisan'
,], family = binomial)
#Missing acceptance
nor_na_acceptance_frames <- glm(is.na(acceptability)~ frames, data = nor_df, family = binomia
l)
nor_na_acceptance_frames2 <- glm(is.na(acceptability) ~ frames, data = nor_df[nor_df$frames !
= 'Partisan',], family = binomial)
nor_na_acceptance_favorableoutcome <- glm(is.na(acceptability)~ favorable_outcome, data = nor
_df, family = binomial)
```

```
stargazer(nor_na_fairness, nor_na_fairness2, nor_na_acceptance_frames,
          nor_na_acceptance_frames2,
          nor_na_acceptance_favorableoutcome,
          type = "html",
          star.char = c("*", "**", "***"),
          star.cutoffs = c(.05, .01, .001),
          style = "apsr",
          title = "Table #. ",
          header = FALSE,
          covariate.labels = c("Legalistic", "Policy", "Favorable outcome"),
          single.row = TRUE,
          omit.stat = c("f", "ser", "rsq", "adj.rsq"),
          out = "nor_missing.doc")
```

Appendix Table B7 - Multiple imputation analysis

```
#Portugal
df_short<-por_df[,c('frames','fairness','favorable_outcome','acceptability')]
#NAs per variable
apply(df_short,2,function(x) sum(is.na(x)))
```

```
##           frames          fairness favorable_outcome     acceptability
##                0               325                22               258
```

```
set.seed(1234)
df.mids<-mice(df_short, print=FALSE)
#Fairness model with multiple imputation
fairness_model<-lm.mids(fairness ~ frames, df.mids)
#Results from fairness model with multiple imputation
summary(pool(fairness_model))
```

```
##               term  estimate std.error statistic       df      p.value
## 1      (Intercept) 5.0868486 0.2337557 21.761392 7.158611 8.362623e-08
## 2 framesLegalistic 0.8888939 0.3226129  2.755296 7.413552 2.673876e-02
## 3     framesPolicy 0.8665827 0.3192322  2.714585 7.506087 2.807945e-02
```

```
#Acceptability model with multiple imputation
acceptability_model<-lm.mids(acceptability ~ frames + favorable_outcome, df.mids)
#Results from acceptability model with multiple imputation
summary(pool(acceptability_model))
```

```
##                                term  estimate std.error statistic        df
## 1                       (Intercept) 4.7095147 0.1624466 28.991152  92.46362
## 2                  framesLegalistic 0.4456017 0.1928059  2.311141 159.43831
## 3                      framesPolicy 0.2354051 0.2212749  1.063858  30.58384
## 4 favorable_outcomeFavorable outcome 1.8041194 0.2170550  8.311808  12.81235
##        p.value
## 1 0.000000e+00
## 2 2.210571e-02
## 3 2.957208e-01
## 4 1.622507e-06
```

```
#Norway
nor_df_short<-nor_df[,c('frames','fairness','favorable_outcome','acceptability')]
#NAs per variable
apply(nor_df_short,2,function(x) sum(is.na(x)))
```

```
##            frames          fairness favorable_outcome     acceptability
##                 0                55                54                54
```

```
set.seed(1234)
nor_df.mids<-mice(nor_df_short,print=FALSE)
#Fairness model with multiple imputation
nor_fairness_model<-lm.mids(fairness ~ frames, nor_df.mids)
#Results from fairness model with multiple imputation
summary(pool(nor_fairness_model))
```

```
##               term estimate std.error statistic       df p.value
## 1      (Intercept) 4.636573 0.1044489  44.39081 1165.182       0
## 2 framesLegalistic 2.091066 0.1445645  14.46459 1532.365       0
## 3     framesPolicy 1.561141 0.1414995  11.03284 1619.765       0
```

```
#Acceptability model with multiple imputation
nor_acceptability_model<-lm.mids(acceptability ~ frames + favorable_outcome, nor_df.mids)
#Results from acceptability model with multiple imputation
summary(pool(nor_acceptability_model))
```

```
##                                term  estimate std.error statistic        df
## 1                       (Intercept) 4.5934143 0.1245942 36.866994 1542.6555
## 2                  framesLegalistic 0.5915033 0.1538390  3.844950  745.8168
## 3                      framesPolicy 0.3871355 0.1549909  2.497796  293.7015
## 4 favorable_outcomeFavorable outcome 2.9612510 0.1250638 23.677930  421.5911
##        p.value
## 1 0.0000000000
## 2 0.0001308689
## 3 0.0130438145
## 4 0.0000000000
```

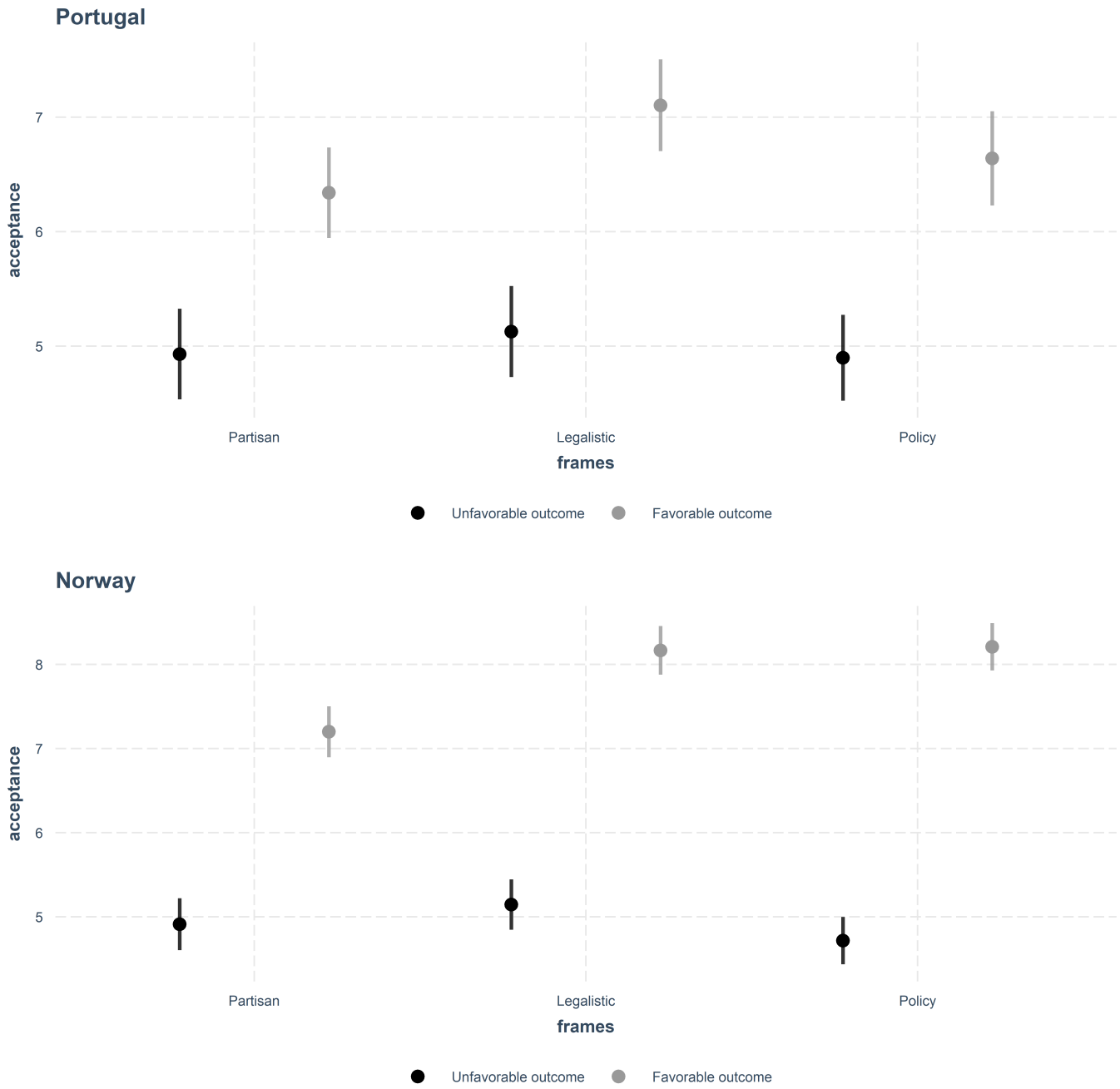
Exploratory analysis: Is the effect of favorable outcome on acceptability perception conditioned by frames and fairness perceptions?

```
#Portugal interaction model
por_frames_outcome <- lm(acceptability ~ frames * favorable_outcome, data = por_df)
#Norway interaction model
nor_frames_outcome <- lm(acceptability ~ frames * favorable_outcome, data = nor_df)
```

Make figure C1

```
por_frames_outcome_plot <-
  cat_plot(
    por_frames_outcome,
    pred = frames,
    modx = favorable_outcome,
    interval.geom = "linerange",
    colors = c("gray0", "gray60")
  ) +
  ggtitle("Portugal") +
  labs(y = "acceptance") +
  theme(legend.position = "bottom",
        legend.title = element_blank())

nor_frames_outcome_plot <-
  cat_plot(
    nor_frames_outcome,
    pred = frames,
    modx = favorable_outcome,
    interval.geom = "linerange",
    colors = c("gray0", "gray60")
  ) +
  ggtitle("Norway") +
  labs(y = "acceptance") +
  theme(legend.position = "bottom",
        legend.title = element_blank())
```

Plot Figure C1



Interaction effect between framing and favorable outcome on acceptability perceptions. The upper part of the figure show Portguese results and the lower part show Norwegian results. Estimates are the predicted mean for different outcomes across different levels of frames. 95% confidence intervals enclose the estimates.

Appendix table C1

```
stargazer(por_frames_outcome, nor_frames_outcome,
          star.char = c("*", "**", "***"),
          star.cutoffs = c(.05, .01, .001),
          type = "html",
          digits = 3,
          style = "apsr",
          title = "Interaction effects frames and fairness perceptions, Portugal",
          covariate.labels = c("Legalistic", "Policy",
                               "Favorable outcome", "Legalistic*favorable outcome",
                              "Policy*favorable outcome"
                               ),
          header = FALSE,
          single.row = TRUE,
          omit.stat = c("f", "ser", "rsq", "adj.rsq"),
          out = "frames_ouctome_interactions.doc")
```

Session info

```
sessionInfo()
```

```
## R version 4.0.2 (2020-06-22)
## Platform: x86_64-w64-mingw32/x64 (64-bit)
## Running under: Windows 10 x64 (build 19044)
##
## Matrix products: default
##
## locale:
## [1] LC_COLLATE=Norwegian Bokmål_Norway.1252
## [2] LC_CTYPE=Norwegian Bokmål_Norway.1252
## [3] LC_MONETARY=Norwegian Bokmål_Norway.1252
## [4] LC_NUMERIC=C
## [5] LC_TIME=Norwegian Bokmål_Norway.1252
##
## attached base packages:
## [1] grid      stats     graphics  grDevices utils     datasets  methods
## [8] base
##
## other attached packages:
##  [1] mice_3.13.0        interactions_1.1.3 infer_0.5.4        patchwork_1.1.1
##  [5] summarytools_0.9.6 mediation_4.5.0    sandwich_2.5-1     mvtnorm_1.1-1
##  [9] MASS_7.3-54        stargazer_5.2.2    socviz_1.2         jtools_2.1.0
## [13] srvyr_0.4.0        survey_4.0         survival_3.1-12    Matrix_1.2-18
## [17] readstata13_0.9.2  broom_0.7.0        forcats_0.5.0      stringr_1.4.0
## [21] dplyr_1.0.2        purrr_0.3.4        readr_1.3.1        tidyr_1.1.1
## [25] tibble_3.0.3       ggplot2_3.3.2      tidyverse_1.3.0
##
## loaded via a namespace (and not attached):
##  [1] minqa_1.2.4         colorspace_1.4-1    pryr_0.1.4
##  [4] ellipsis_0.3.1      htmlTable_2.1.0     base64enc_0.1-3
##  [7] fs_1.5.0            rstudioapi_0.11     farver_2.0.3
## [10] fansi_0.4.1         lubridate_1.7.9     xml2_1.3.2
## [13] codetools_0.2-16    splines_4.0.2       knitr_1.29
## [16] Formula_1.2-4       jsonlite_1.7.1      nloptr_1.2.2.2
## [19] cluster_2.1.0       dbplyr_1.4.4        png_0.1-7
## [22] compiler_4.0.2      httr_1.4.2          backports_1.1.9
## [25] assertthat_0.2.1    cli_2.0.2           htmltools_0.5.0
## [28] tools_4.0.2         gtable_0.3.0        glue_1.4.1
## [31] Rcpp_1.0.9          cellranger_1.1.0    vctrs_0.3.2
## [34] nlme_3.1-148        xfun_0.16           lme4_1.1-23
## [37] rvest_0.3.6         lpSolve_5.6.15      lifecycle_0.2.0
## [40] statmod_1.4.34      zoo_1.8-8           scales_1.1.1
## [43] hms_0.5.3           RColorBrewer_1.1-2  yaml_2.2.1
## [46] gridExtra_2.3       pander_0.6.3        rpart_4.1-15
## [49] latticeExtra_0.6-29 stringi_1.4.6       highr_0.8
## [52] checkmate_2.0.0     boot_1.3-25         rlang_0.4.7
## [55] pkgconfig_2.0.3     matrixStats_0.56.0  evaluate_0.14
## [58] lattice_0.20-41     labeling_0.3        rapportools_1.0
## [61] htmlwidgets_1.5.1   tidyselect_1.1.0    plyr_1.8.6
## [64] magrittr_1.5        R6_2.4.1            magick_2.4.0
## [67] generics_0.0.2      Hmisc_4.4-2         DBI_1.1.0
## [70] pillar_1.4.6        haven_2.3.1         foreign_0.8-80
## [73] withr_2.2.0         nnet_7.3-14         modelr_0.1.8
## [76] crayon_1.3.4        utf8_1.1.4          rmarkdown_2.3
## [79] jpeg_0.1-8.1        readxl_1.3.1        data.table_1.13.0
```

```
## [82] blob_1.2.1          reprex_0.3.0        digest_0.6.25
## [85] munsell_0.5.0       mitools_2.4         tcltk_4.0.2
```