Analysing Vote Choice Data

Final assignment

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Preliminaries

```
# load relevant packages
library(tidyverse)
library(haven)
library(modelsummary)
library(survey)
library(here)
library(ggeffects)
library(margins)

# import data
gles <- read_dta(paste0(here(), "/Data/german_longitudinal_election_study_cross_section_post_election20
gles1 <- read_dta(paste0(here(), "/Data/gles_panel_wave20.dta"))
```

Next, we will create some new variables:

```
gles_mod <- gles %>%
  select(1:100, grep("d38|d4|q18|d63|d18|q63|d17|d8|d7|wum6|q18|q35|q37|q46|q78|q79|q125|q143", names(g
  mutate(btw17_zweitstimme = ifelse(q34ba < 0, NA, q34ba),
         btw21_zweitstimme = ifelse(q114ba < 0, NA, q114ba),
         btw21_turnout = ifelse(q111 < 0 | q111 == 8, NA, q111),
         btw21_turnout1 = ifelse(btw21_turnout == 1, 1, 0),
         year_born = ifelse(grepl("-99|frueher", d2a), NA, d2a),
         ostwest2_dummy = ifelse(ostwest2 < 0, NA, ostwest2),
         ostwest_factor = factor(ostwest2_dummy,
                                 levels = c(0, 1),
                                 labels = c("ost", "west")),
         sex = ifelse(d1 < 0, NA, d1),
         sex1 = factor(sex, levels = c(1, 2),
```

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```
                  labels = c("male", "female")),
        year_born1 = as.numeric(as.character(year_born)),
        age = 2021 - as.numeric(as.character(year_born)),
        spd_21 = ifelse(btw21_zweitstimme == 4, 1, 0),
        union_21 = ifelse(btw21_zweitstimme == 1, 1, 0),
        gruene_21 = ifelse(btw21_zweitstimme == 6, 1, 0),
        fdp_21 = ifelse(btw21_zweitstimme == 5, 1, 0),
        afd_21 = ifelse(btw21_zweitstimme == 322, 1, 0),
        linke_21 = ifelse(btw21_zweitstimme == 7, 1, 0),
        spd_to_switch = ifelse(btw21_zweitstimme == 4 & btw17_zweitstimme != 4, 1, 0),
        afd_away_switch = ifelse(btw17_zweitstimme == 322 & btw21_zweitstimme != 322, 1, 0),
        constituency_centric_rep = ifelse(q63a < 0, NA, q63a),
        party_centric_rep = ifelse(q63c < 0, NA, q63c),
        household_income = ifelse(d63 < 0, NA, d63),
        household_income_factor = as.factor(household_income),
        bachelor_dummy = ifelse(d8j1 < 0, NA, d8j1),
        school = ifelse(d7 < 0, NA, d7),
        abitur = ifelse(d7 == 5, 1, 0),
        abitur_factor = ifelse(abitur == 1, "abitur", "no_abitur"),
        urban_rural = ifelse(wum6 < 0, NA, wum6),
        urban_rural_factor = as.factor(urban_rural),
        subjective_class = ifelse(d38 < 0, NA, d38),
        left_right_self = ifelse(q37 < 0, NA, q37),
        left_right_self_factor = as.factor(left_right_self),
        left_right_cdu = ifelse(q35b < 0, NA, q35b),
        left_right_cdu_factor = as.factor(left_right_cdu),
        distance_cdu = (left_right_cdu-left_right_self)^2,
        left_right_csu = ifelse(q35c < 0, NA, q35c),
        left_right_csu_factor = as.factor(left_right_csu),
        distance_csu = (left_right_csu-left_right_self)^2,
        left_right_spd = ifelse(q35d < 0, NA, q35d),
        left_right_spd_factor = as.factor(left_right_spd),
        distance_spd = (left_right_spd-left_right_self)^2,
        left_right_afd = ifelse(q35h < 0, NA, q35h),
        left_right_afd_factor = as.factor(left_right_afd),
        distance_afd = (left_right_afd-left_right_self)^2,
        left_right_fdp = ifelse(q35e < 0, NA, q35e),
        left_right_fdp_factor = as.factor(left_right_fdp),
        distance_fdp = (left_right_fdp-left_right_self)^2,
        left_right_green = ifelse(q35f < 0, NA, q35f),
        left_right_green_factor = as.factor(left_right_green),
        distance_green = (left_right_green-left_right_self)^2,
        left_right_linke = ifelse(q35g < 0, NA, q35g),
```

```
        left_right_linke_factor = as.factor(left_right_linke),
        distance_linke = (left_right_linke-left_right_self)^2,
        scholz_love = ifelse(q18b < 0, NA, q18b),
        scholz_love_factor = as.factor(scholz_love),
        finzanz_abgehangt_subjektiv = ifelse(q46a < 0, NA, q46a),
        finzanz_abgehangt_subjektiv_factor = as.factor(finzanz_abgehangt_subjektiv),
        arbeit_abgehant_subjektiv = ifelse(q46b < 0, NA, q46b),
        arbeit_abgehant_subjektiv_factor = as.factor(arbeit_abgehant_subjektiv),
        cancel_culture_subjektiv = ifelse(q46d < 0, NA, q46d),
        cancel_culture_subjektiv_factor = as.factor(cancel_culture_subjektiv),
        infrastruktur_subjektiv = ifelse(q46c < 0, NA, q46c),
        infrastruktur_subjektiv_factor = as.factor(infrastruktur_subjektiv),
        unemployed_last10_yrs = ifelse(d17a < 0, NA, d17a),
        unemployed_last10yrs_months = ifelse(d17b < 0, NA, d17b),
        unemployed_last10yrs_weeks = ifelse(d17c < 0, NA, d17c),
        unemployed_dummy = ifelse(unemployed_last10_yrs != 0, 1, 0),
        unemployed_dummy_factor = as.factor(unemployed_dummy),
        trust_in_politicians = ifelse(q79d < 0, NA, q79d),
        trust_in_politicians_factor = as.factor(trust_in_politicians),
        trust_in_parliament = ifelse(q79b < 0, NA, q79b),
        trust_in_parliament_factor = as.factor(trust_in_parliament),
        trust_in_parties = ifelse(q79c < 0, NA, q79c),
        trust_in_parties_factor = as.factor(trust_in_parties),
        trust_in_public_broadcast = ifelse(q79i < 0, NA, q79i),
        trust_in_public_broadcast_factor = as.factor(trust_in_public_broadcast),
        trust_general = ifelse(q78 < 0, NA, q78),
        trust_general_factor = as.factor(trust_general),
        out_group_minorities_assim = ifelse(q125a < 0, NA, q125a),
        out_group_minorities_assim_factor = as.factor(out_group_minorities_assim),
        out_group_majority_will = ifelse(q125b < 0, NA, q125b),
        out_group_majority_will_factor = as.factor(out_group_majority_will),
        out_group_immig_econ_good = ifelse(q125c < 0, NA, q125c),
        out_group_immig_econ_good_factor = as.factor(out_group_immig_econ_good),
        out_group_immig_culture_threat = ifelse(q125d < 0, NA, q125d),
        out_group_immig_culture_threat_factor = as.factor(out_group_immig_culture_threat),
        out_group_immig_crime = ifelse(q125e < 0, NA, q125e),
        out_group_immig_crime_factor = as.factor(out_group_immig_crime),
        scale_pol_lasceht = ifelse(q18a < 0, NA, q18a),
        scale_pol_scholz = ifelse(q18b < 0, NA, q18b),
        scale_pol_baerbock = ifelse(q18c < 0, NA, q18c))
```

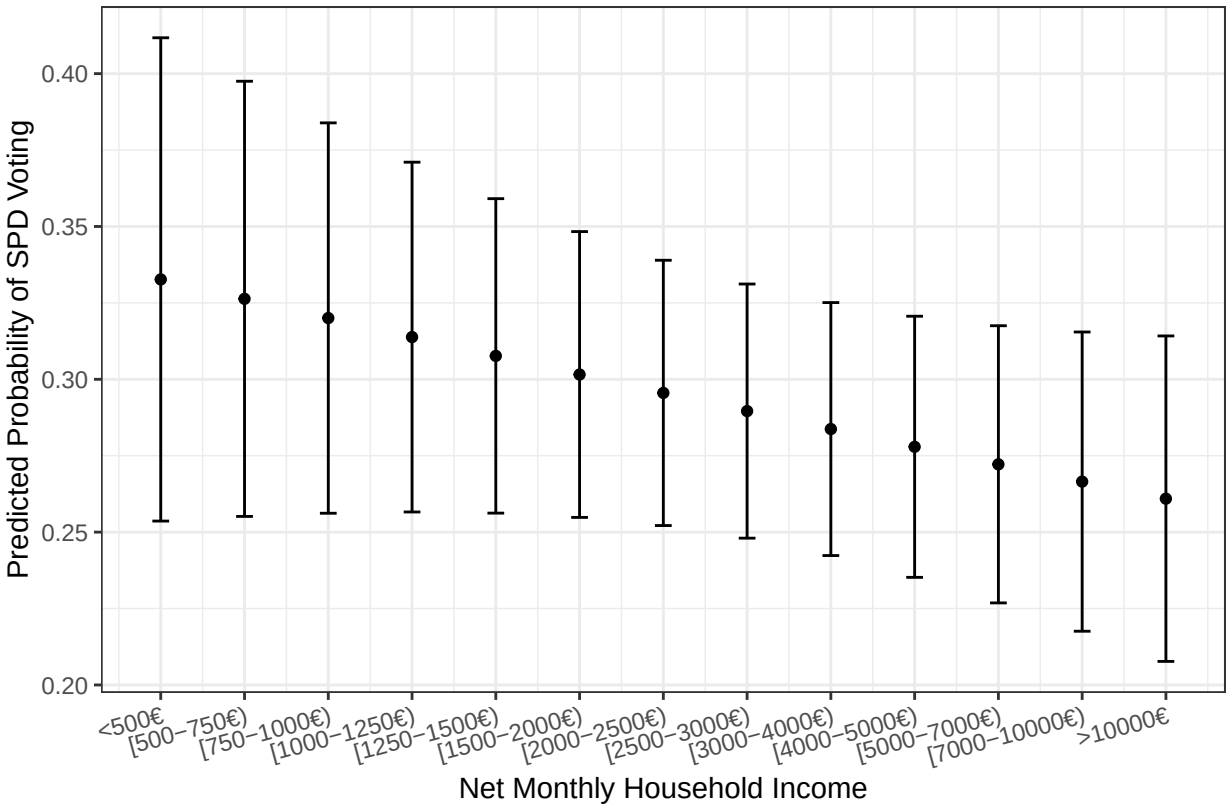
Some tentative analysis

SPD

Socio-Demographic Correlates

Relationship between household income and SPD voting

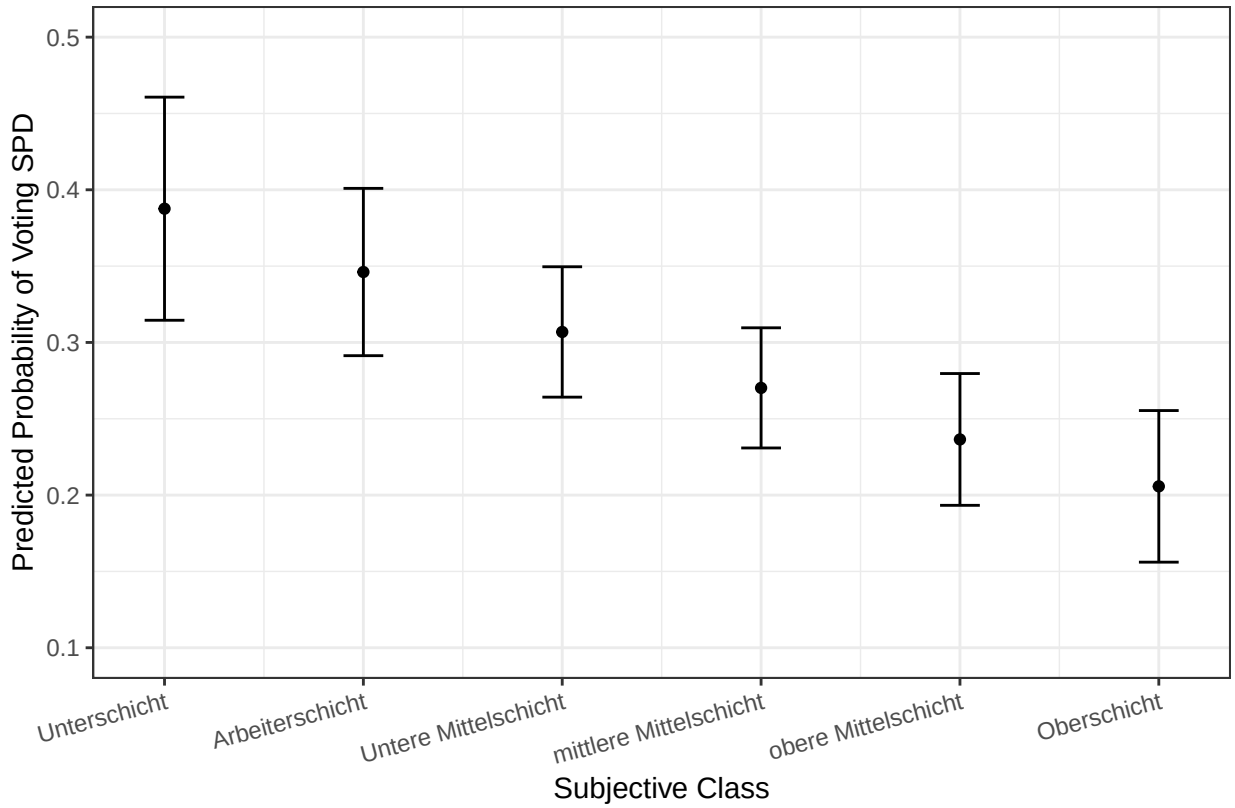
```
spd_income <- glm(spd_21 ~ household_income + age + abitur_factor + sex1 + urban_rural_factor + ostwest_
# plot
cplot(spd_income, x = "household_income",
      xvals = seq(1, 13, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Net Monthly Household Income",
                     breaks = seq(1, 13, 1),
                     labels = c("<500€", "[500-750€)",
                                "[750-1000€)", "[1000-1250€)",
                                "[1250-1500€)", "[1500-2000€)",
                                "[2000-2500€)", "[2500-3000€)",
                                "[3000-4000€)", "[4000-5000€)",
                                "[5000-7000€)", "[7000-10000€)",
                                ">10000€")) +
  labs(y = "Predicted Probability of SPD Voting",
       caption = "Covariates include: age, education, gender and rurality of place of residence.") +
  theme_bw() +
  theme(axis.text.x = element_text(angle = 15, hjust = 1))
```



There is no robust relationship between net monthly household income and voting for the SPD.

Relationship between subjective class and SPD voting

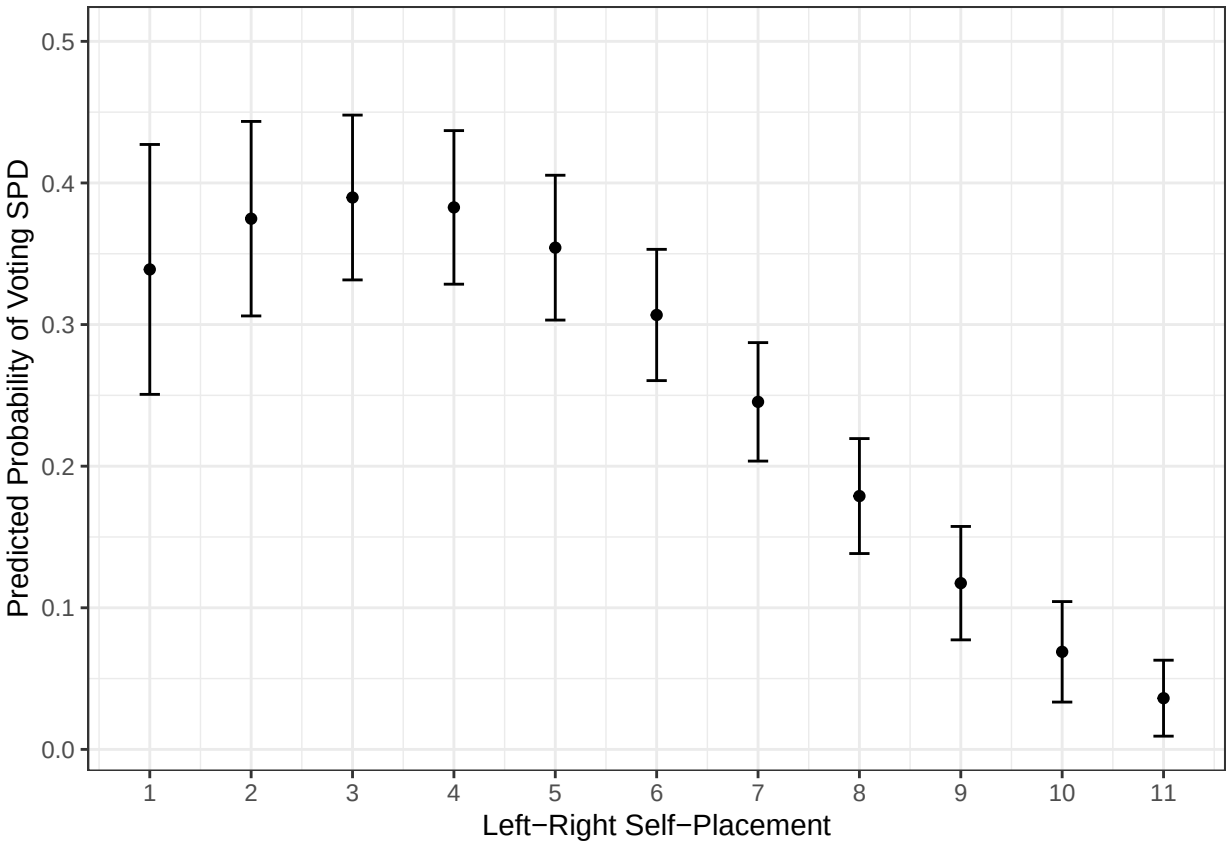
```
spd_sclass <- glm(spd_21 ~ subjective_class + age + abitur_factor + sex1 + urban_rural_factor + ostwest_
# plot
cplot(spd_sclass, x = "subjective_class",
      xvals = seq(1, 6, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Subjective Class",
                     breaks = seq(1, 6, 1),
                     labels = c("Unterschicht", "Arbeiterschicht",
                                "Untere Mittelschicht", "mittlere Mittelschicht",
                                "obere Mittelschicht", "Oberschicht")) +
  labs(y = "Predicted Probability of Voting SPD",
       caption = "Covariates include: age, education, gender and rurality of place of residence.") +
  ylim(c(0.1, 0.5)) +
  theme_bw() +
  theme(axis.text.x = element_text(angle = 15, hjust = 1))
```



Covariates include: age, education, gender and rurality of place of residence.

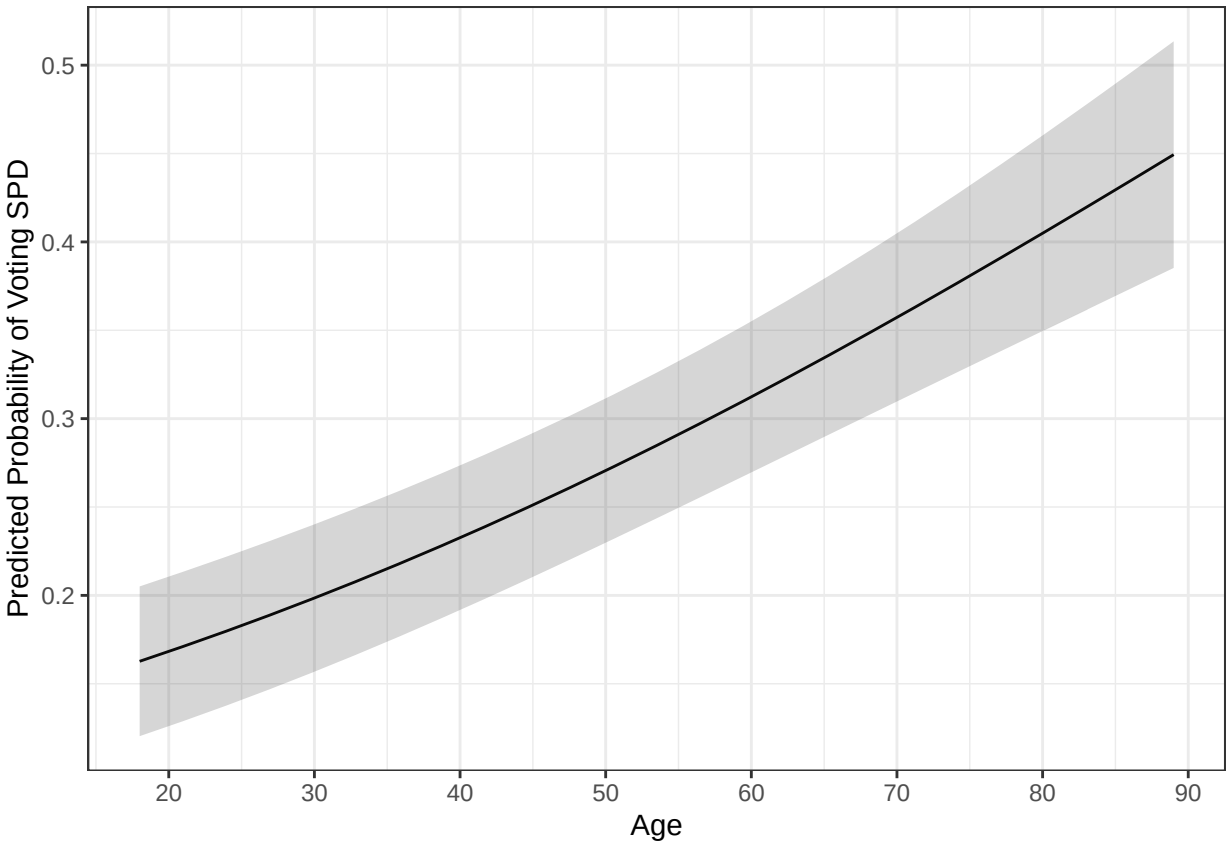
What is the relationship between left-right self-placement and SPD voting?

```
spd_left_right_self <- glm(spd_21 ~ left_right_self + I(left_right_self^2) + household_income + age + al
# plot
cplot(spd_left_right_self, x = "left_right_self",
      xvals = seq(1, 11, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Left-Right Self-Placement",
                     breaks = seq(1, 11, 1)) +
  expand_limits(y = 0.5) +
  labs(y = "Predicted Probability of Voting SPD") +
  theme_bw()
```



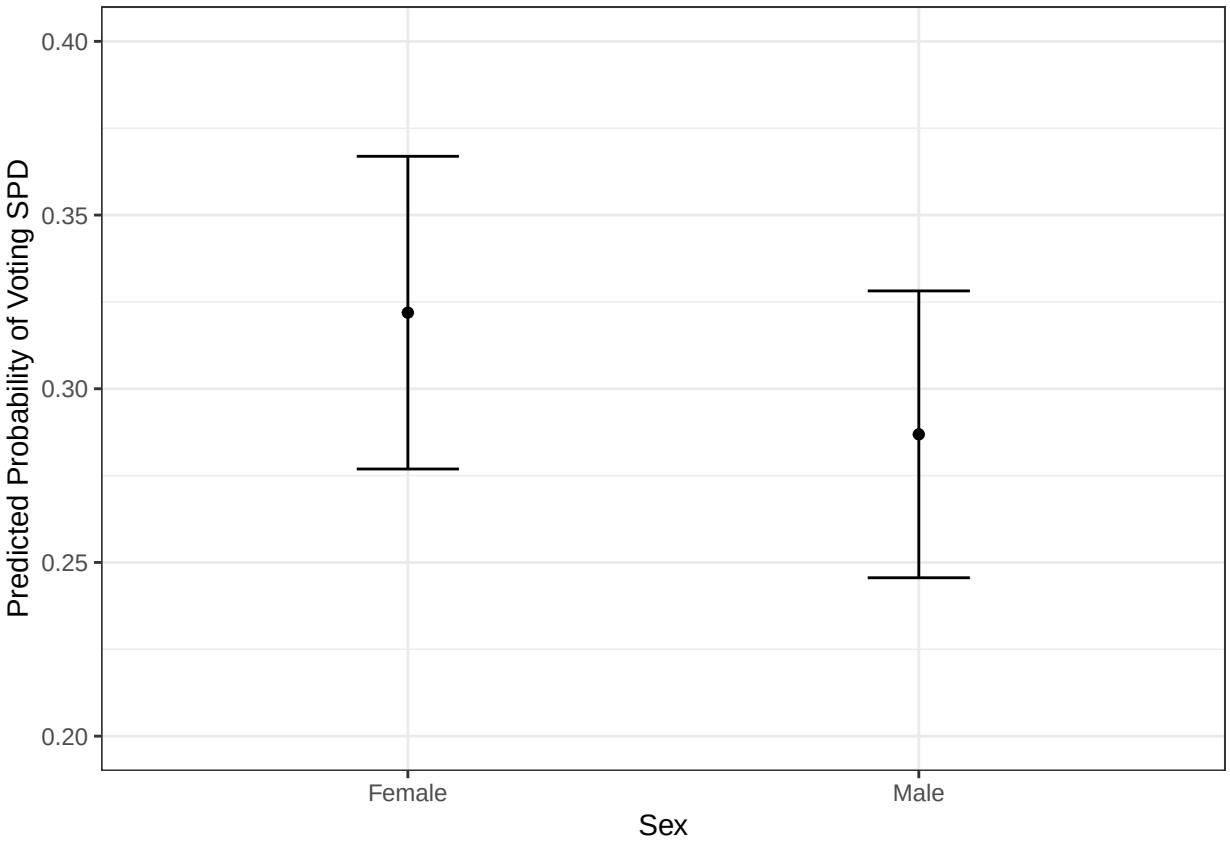
Relationship between age and SPD voting

```
spd_age <- glm(spd_21 ~ household_income + age + abitur_factor + sex1 + urban_rural_factor + ostwest_fa
# plot
cplot(spd_age, x = "age", draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_line(aes(y = yvals)) +
  geom_ribbon(aes(ymin = lower, ymax = upper), alpha = 0.2) +
  scale_x_continuous("Age", breaks = seq(20, 90, 10)) +
  labs(y = "Predicted Probability of Voting SPD") +
  theme_bw()
```



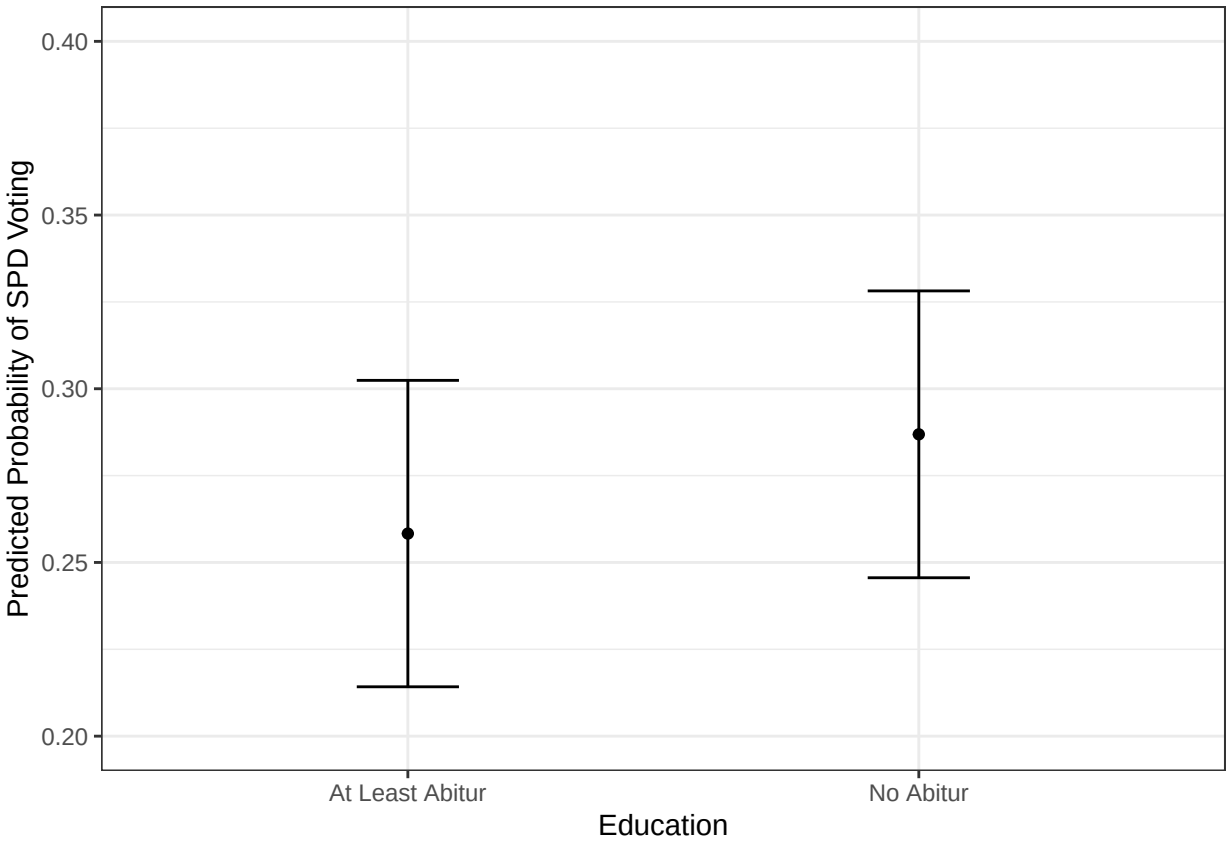
Relationship between sex and SPD voting

```
cplot(spd_income, x = "sex1", draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  ylim(c(0.2, 0.4)) +
  scale_x_discrete("Sex", labels = c("Female", "Male")) +
  labs(y = "Predicted Probability of Voting SPD") +
  theme_bw()
```

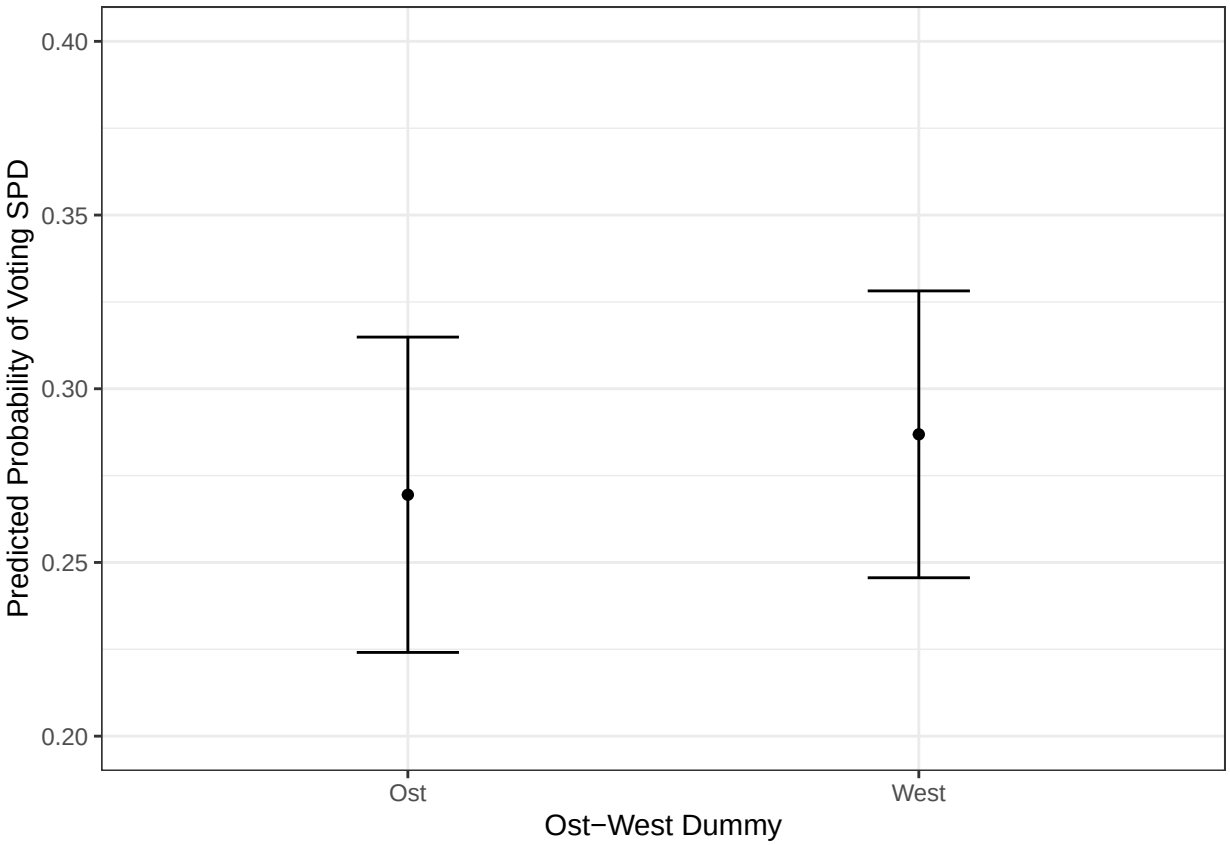


Relationship between education and SPD

```
cplot(spd_income, x = "abitur_factor", draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_discrete("Education", labels = c("At Least Abitur", "No Abitur")) +
  ylim(c(0.2, 0.4)) +
  labs(y = "Predicted Probability of SPD Voting") +
  theme_bw()
```

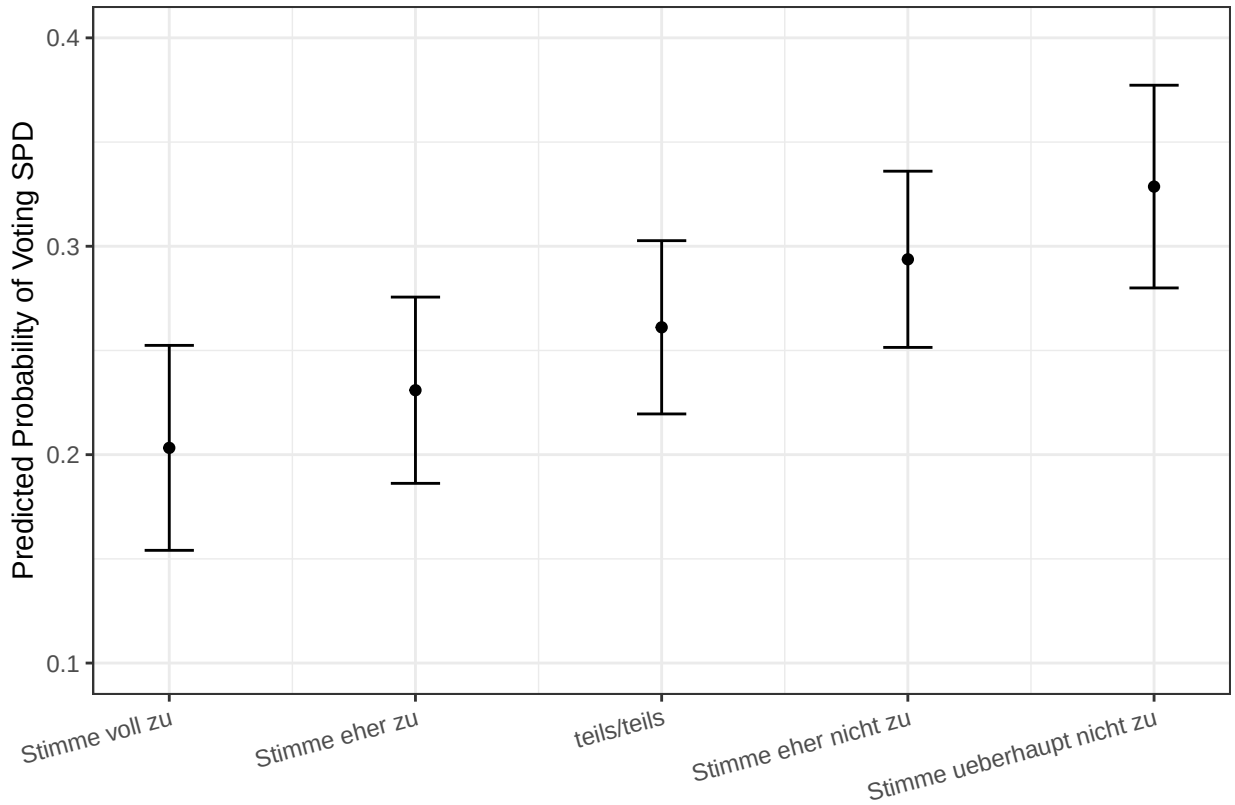



```
cplot(spd_income, x = "ostwest_factor", draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_discrete("Ost-West Dummy", labels = c("Ost", "West")) +
  ylim(c(0.2, 0.4)) +
  labs(y = "Predicted Probability of Voting SPD") +
  theme_bw()
```



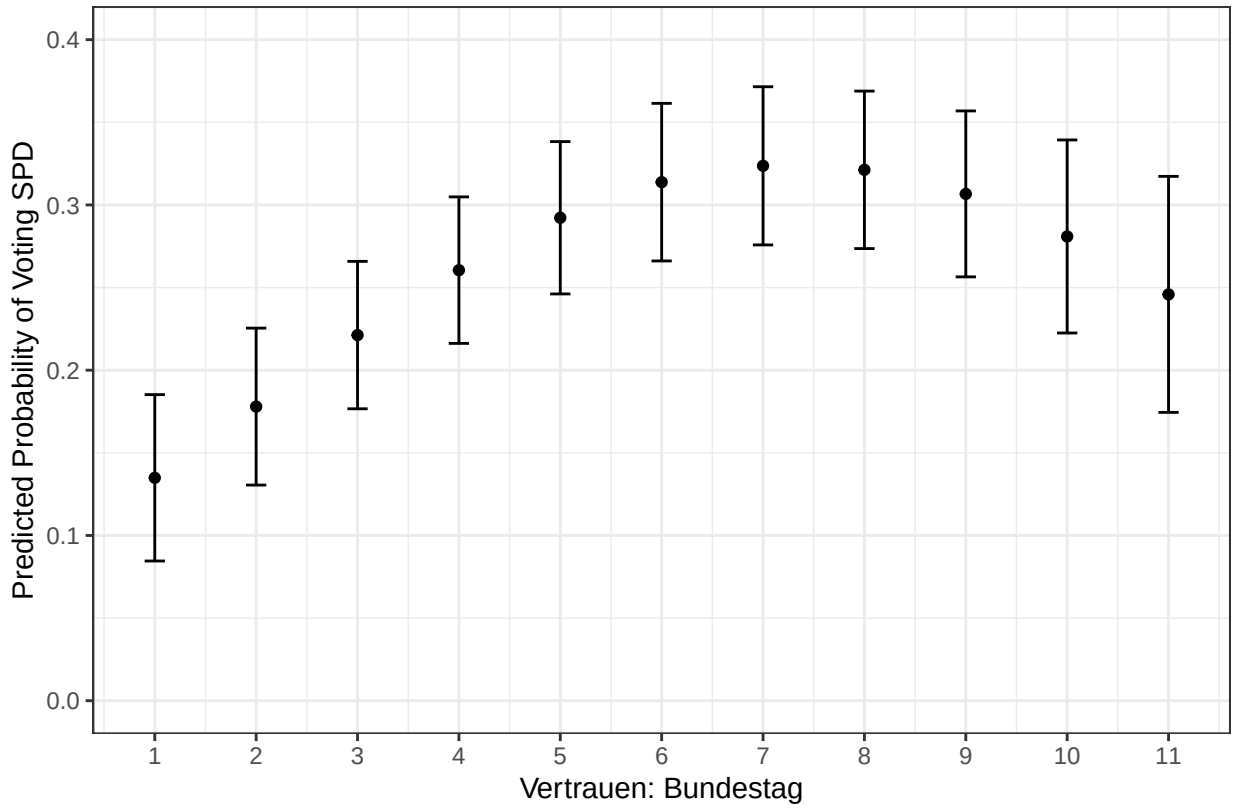
Attiudinal Correlates

```
# none of the other abgehaengt variables is significant
spd_cancel_culture <- glm(spd_21 ~ cancel_culture_subjektiv + household_income + age + abitur_factor + s
# plot
cplot(spd_cancel_culture, x = "cancel_culture_subjektiv",
      xvals = seq(1, 5, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Subjektiv: Keine freie Meinungsaeusserung moeglich",
                     breaks = seq(1, 5, 1),
                     labels = c("Stimme voll zu", "Stimme eher zu",
                                "teils/teils", "Stimme eher nicht zu",
                                "Stimme ueberhaupt nicht zu")) +
  labs(y = "Predicted Probability of Voting SPD") +
  ylim(c(0.1, 0.4)) +
  theme_bw() +
  theme(axis.text.x = element_text(angle = 15, hjust = 1))
```

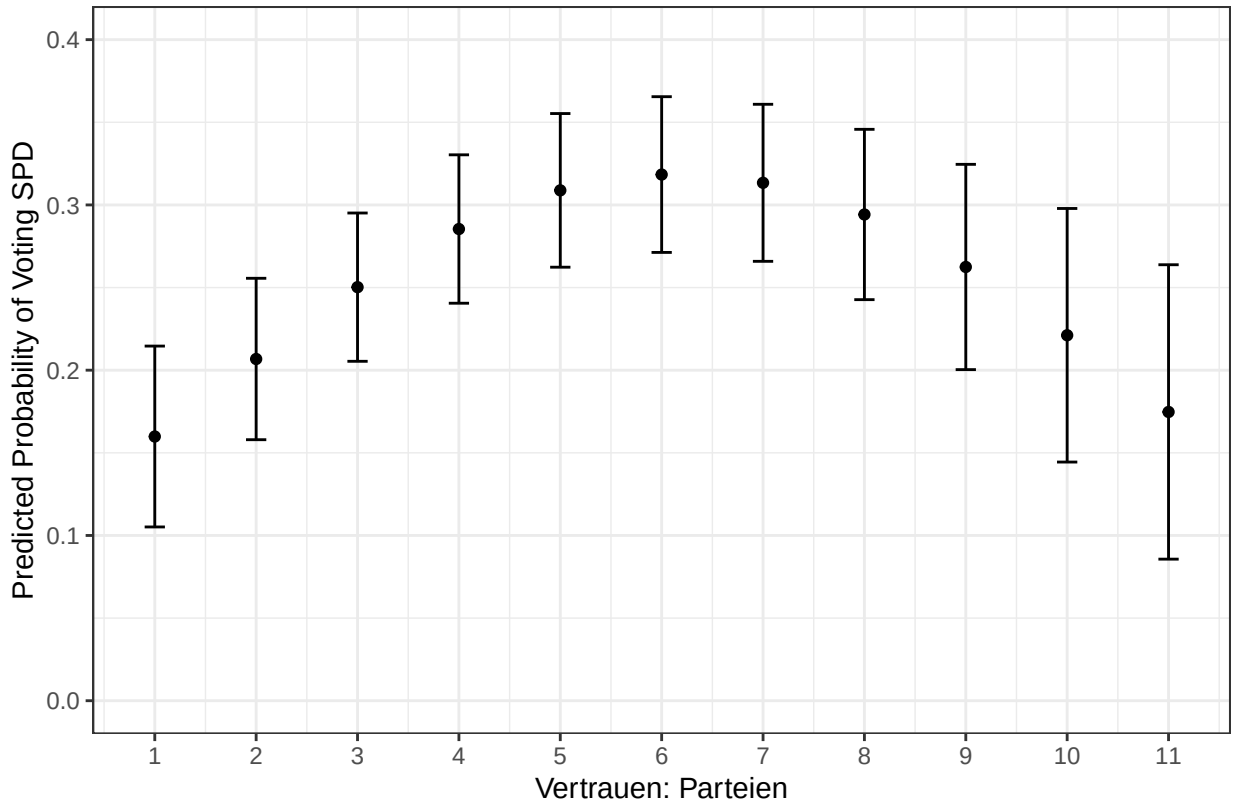


Subjektiv: Keine freie Meinungsaeusserung moeglich

```
# general trust is not significant
# trust in parliament is significant
spd_trust_parliament <- glm(spd_21 ~ trust_in_parliament + I(trust_in_parliament^2) + household_income +
# plot
cplot(spd_trust_parliament, x = "trust_in_parliament",
      xvals = seq(1, 11, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Vertrauen: Bundestag",
                     breaks = seq(1, 11, 1)) +
  labs(y = "Predicted Probability of Voting SPD",
       caption = "'1' indicates 'no trust', while 11 indicates 'full trust'.") +
  ylim(c(0, 0.4)) +
  theme_bw()
```

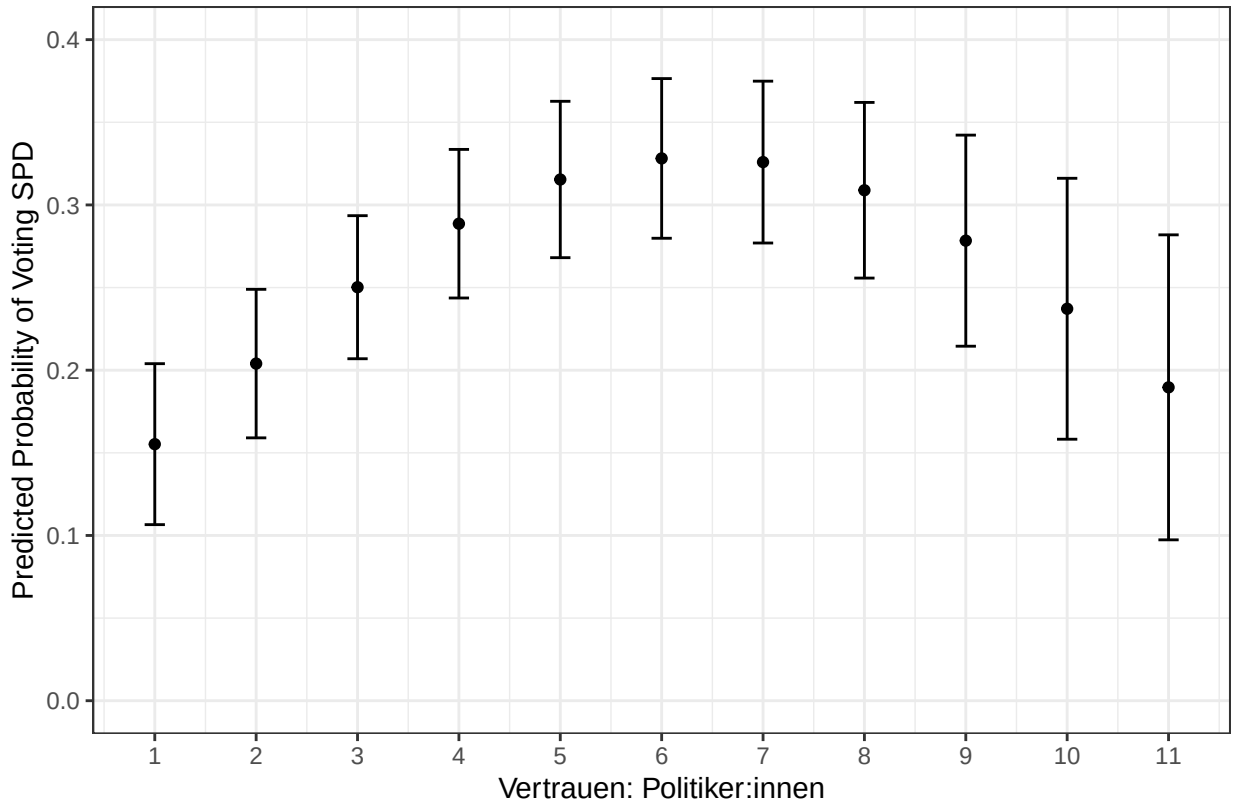



```r
# trust in parties
spd_trust_parties <- glm(spd_21 ~ trust_in_parties + I(trust_in_parties^2) + household_income + age + al
# plot
cplot(spd_trust_parties, x = "trust_in_parties",
      xvals = seq(1, 11, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Vertrauen: Parteien",
                     breaks = seq(1, 11, 1)) +
  labs(y = "Predicted Probability of Voting SPD",
       caption = "'1' indicates 'no trust', while 11 indicates 'full trust'.") +
  ylim(c(0, 0.4)) +
  theme_bw()
```



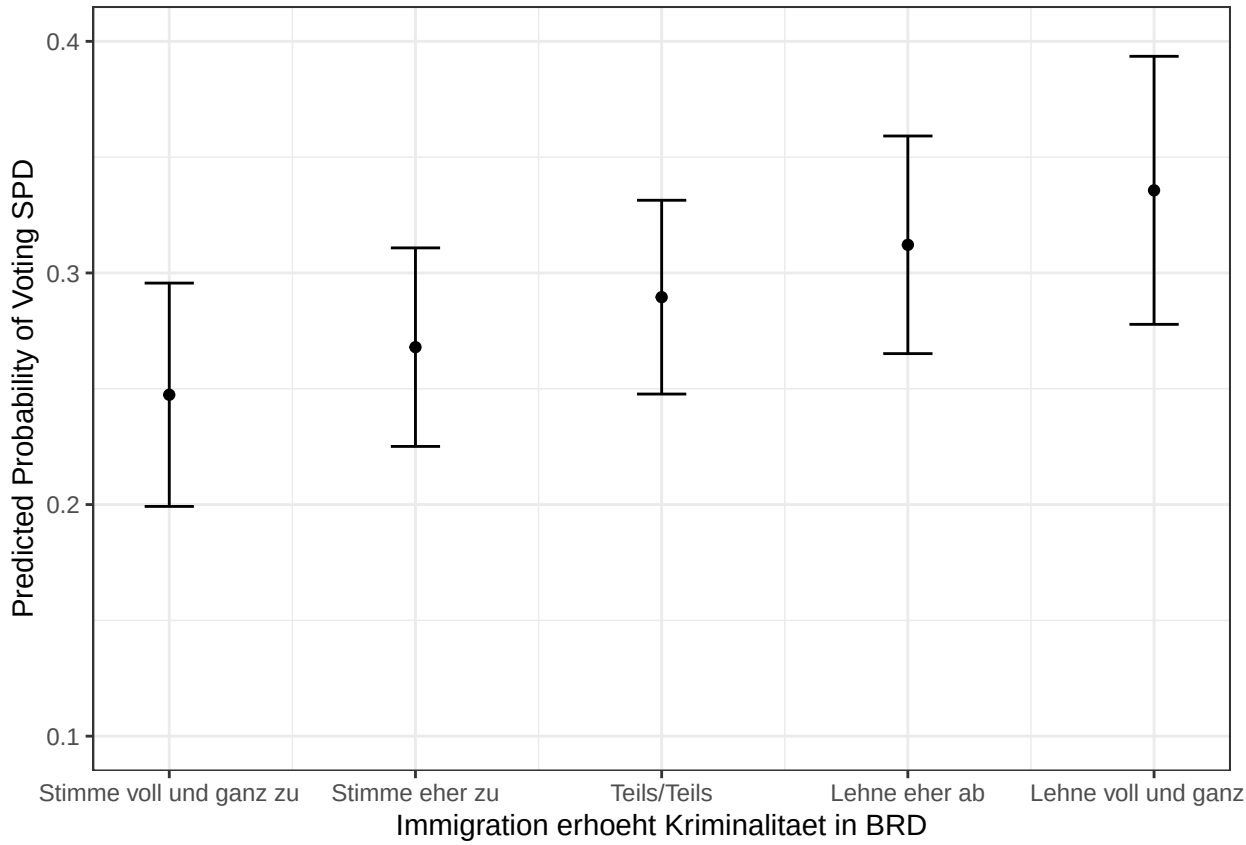
'1' indicates 'no trust', while 11 indicates 'full trust'.

```
# trust in politicians
spd_trust_politicians <- glm(spd_21 ~ trust_in_politicians + I(trust_in_politicians^2) + household_incor
# plot
cplot(spd_trust_politicians, x = "trust_in_politicians",
      xvals = seq(1, 11, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Vertrauen: Politiker:innen",
                     breaks = seq(1, 11, 1)) +
  labs(y = "Predicted Probability of Voting SPD",
       caption = "'1' indicates 'no trust', while 11 indicates 'full trust'.") +
  ylim(c(0, 0.4)) +
  theme_bw()
```



'1' indicates 'no trust', while 11 indicates 'full trust'.

```
# immigrants bring crime is significant
spd_immig_crime <- glm(spd_21 ~ out_group_immig_crime + household_income + age + abitur_factor + sex1 +
# plot
cplot(spd_immig_crime, x = "out_group_immig_crime",
      xvals = seq(1, 5, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Immigration erhoeht Kriminalitaet in BRD",
                     breaks = seq(1, 5, 1),
                     labels = c("Stimme voll und ganz zu", "Stimme eher zu",
                                "Teils/Teils", "Lehne eher ab",
                                "Lehne voll und ganz ab")) +
  labs(y = "Predicted Probability of Voting SPD") +
  ylim(c(0.1, 0.4)) +
  theme_bw()
```




```
# immigrants pose cultural threat is not significant at 5% level
# immigrants are good for economics is not significant at 5% level
# majority will is paramount is not significant
# outgroups should assimilate not significant
```

Gruene

Valence -> motivation: Baerbock's campaign

How can we measure valence vs spatial distance?

Who punished the Greens because of Baerbock? Who punished the CDU/CSU because of Laschet? (Lacher and so on) -> Those who are struggling / hard times.

-> egoistic vs sociotropic motivations/evaluations? -> egoistic evaluations matter more when one is ideologically closer to a candidate; spell this out -> sociotropic evaluations matter more when one thinks highly of a candidate

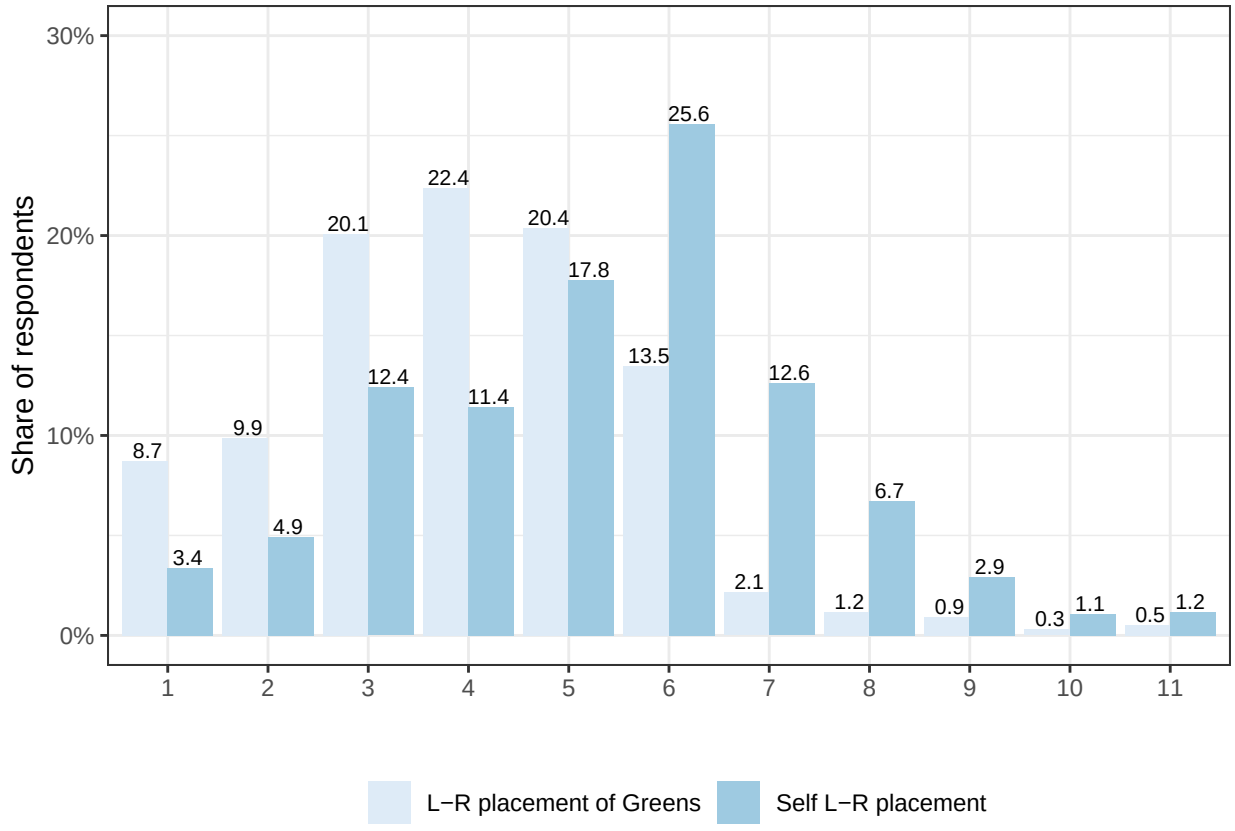
Spatial distance

```
gruene_space <- glm(gruene_21 ~ distance_green + household_income + age + abitur_factor + sex1 + urban_



summary(gruene_space)
```

```
##
## Call:
## glm(formula = gruene_21 ~ distance_green + household_income +
##     age + abitur_factor + sex1 + urban_rural_factor + ostwest_factor,
##     family = binomial(link = "logit"), data = gles_mod)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -1.5342  -0.7083  -0.3949  -0.0132   4.0312
##
## Coefficients:
##                          Estimate Std. Error z value Pr(>|z|)
## (Intercept)              0.163515   0.333388   0.490   0.6238
## distance_green          -0.218754   0.021620 -10.118  < 2e-16 ***
## household_income         0.045328   0.026401   1.717   0.0860 .
## age                     -0.021889   0.003562  -6.145 7.98e-10 ***
## abitur_factorno_abitur -0.750826   0.123852  -6.062 1.34e-09 ***
## sex1female               0.296052   0.115518   2.563   0.0104 *
## urban_rural_factor2     -0.195854   0.182306  -1.074   0.2827
## urban_rural_factor3     -0.326921   0.151903  -2.152   0.0314 *
## urban_rural_factor4     -0.395278   0.162413  -2.434   0.0149 *
## urban_rural_factor5      0.158309   0.576306   0.275   0.7835
## ostwest_factorwest       0.596282   0.138086   4.318 1.57e-05 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 2334.8  on 2243  degrees of freedom
## Residual deviance: 1848.4  on 2233  degrees of freedom
##   (1180 observations deleted due to missingness)
## AIC: 1870.4
##
## Number of Fisher Scoring iterations: 7
```

```r
# placement of greens
gles_mod %>%
  select(left_right_green_factor, left_right_self_factor) %>%
  filter(!is.na(left_right_green_factor) & !is.na(left_right_self_factor)) %>%
  pivot_longer(cols = everything(), names_to = "type", values_to = "value") %>%
  count(type, value) %>%
  group_by(type) %>%
  mutate(share = 100*(n/sum(n))) %>%
  ggplot(aes(x = value, y = share, fill = type)) +
```

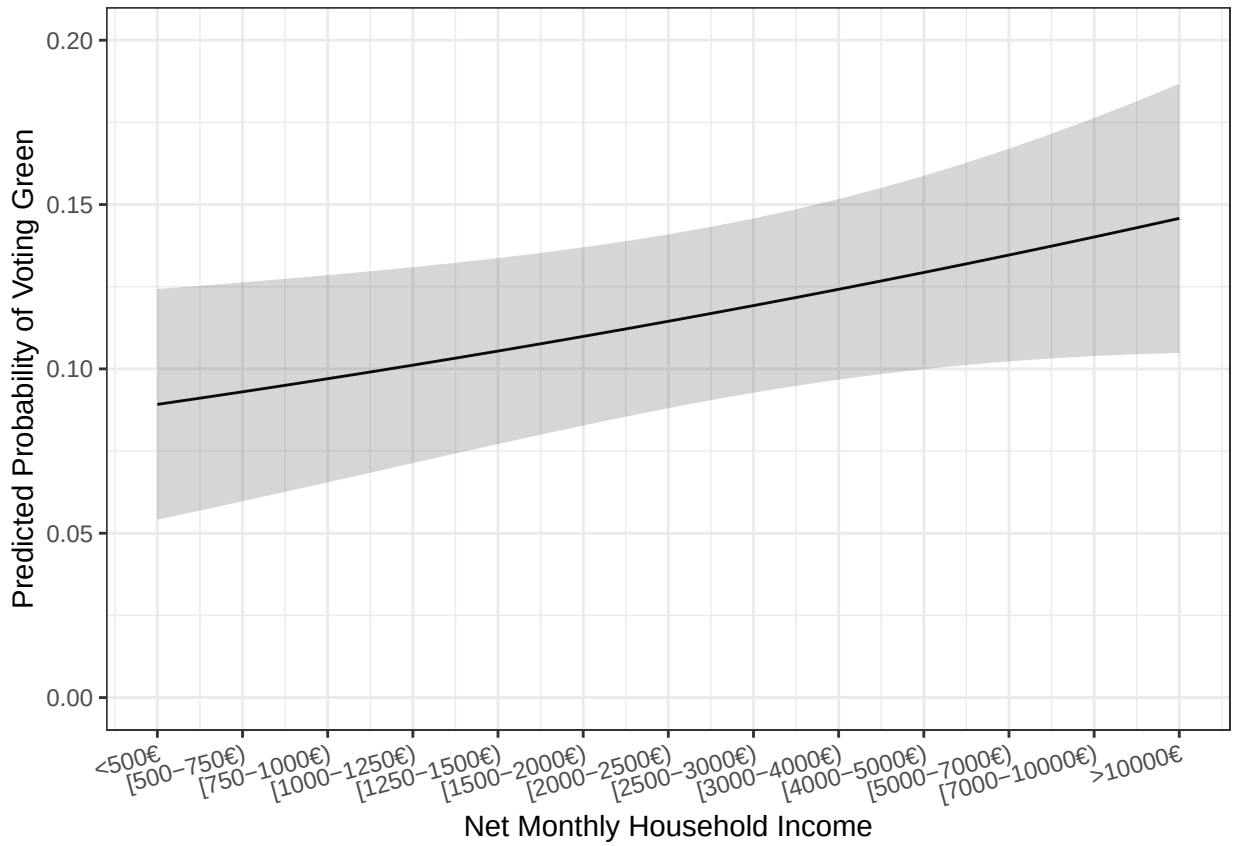
```
  geom_col(position = "dodge") +
  geom_text(aes(label = round(share, 1)), vjust = -0.2, size = 2.7,
            position = position_dodge(width = 0.8)) +
  scale_y_continuous("Share of respondents", labels = scales::label_percent(scale = 1)) +
  scale_fill_brewer("",
                    labels = c("left_right_green_factor" = "L-R placement of Greens",
                               "left_right_self_factor" = "Self L-R placement")) +
  expand_limits(y = 30) +
  labs(x = "") +
  theme_bw() +
  theme(legend.position = "bottom")
```



Socio-demographic Correlates

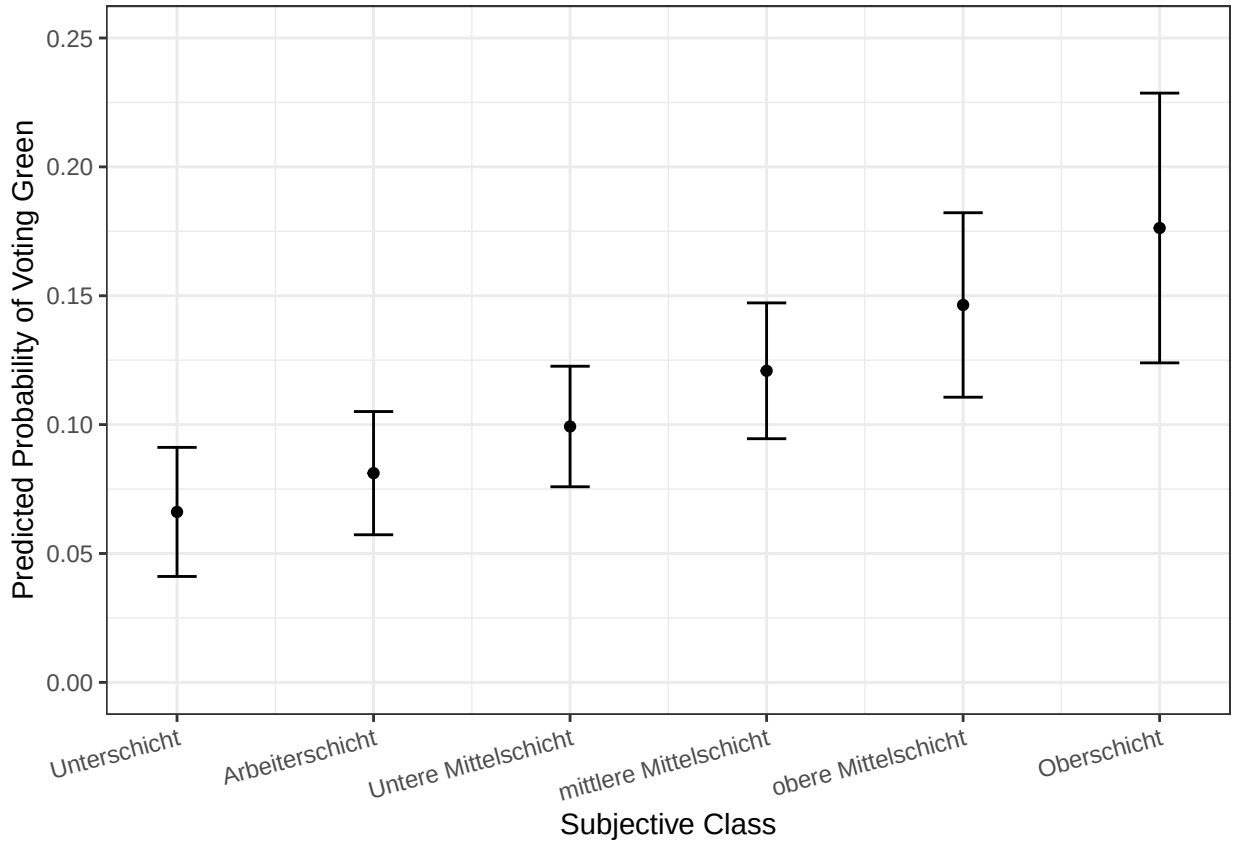
```
gruene_income <- glm(gruene_21 ~ household_income + age + abitur_factor + sex1 + urban_rural_factor + os
# plot
cplot(gruene_income, x = "household_income", draw = F) %>%
  as_tibble() %>%
   ggplot(aes(x = xvals)) +
   geom_line(aes(y = yvals)) +
   geom_ribbon(aes(ymin = lower, ymax = upper), alpha = 0.2) +
```

```
  scale_x_continuous("Net Monthly Household Income",
                     breaks = seq(1, 13, 1),
                     labels = c("<500€", "[500-750€)",
                                "[750-1000€)", "[1000-1250€)",
                                "[1250-1500€)", "[1500-2000€)",
                                "[2000-2500€)", "[2500-3000€)",
                                "[3000-4000€)", "[4000-5000€)",
                                "[5000-7000€)", "[7000-10000€)",
                                ">10000€")) +
  labs(y = "Predicted Probability of Voting Green") +
  ylim(c(0, 0.2)) +
  theme_bw() +
  theme(axis.text.x = element_text(angle = 15, hjust = 1))
```



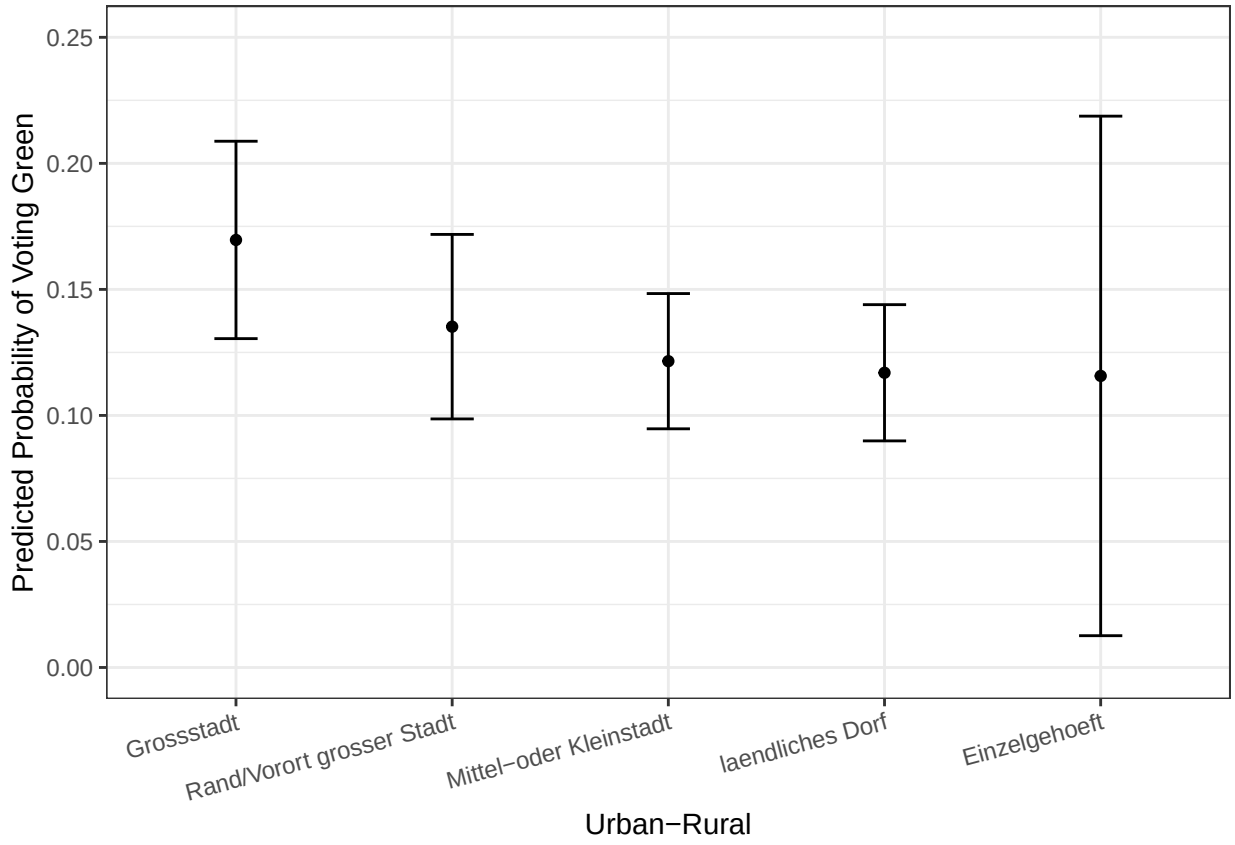

```
gruene_sclass <- glm(gruene_21 ~ subjective_class + age + abitur_factor + sex1 + urban_rural_factor + os
# plot
cplot(gruene_sclass, x = "subjective_class",
      xvals = seq(1, 6, 1),
      draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
```

```
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Subjective Class",
                     breaks = seq(1, 6, 1),
                     labels = c("Unterschicht", "Arbeiterschicht",
                                "Untere Mittelschicht", "mittlere Mittelschicht", "obere Mittelschicht"
  labs(y = "Predicted Probability of Voting Green") +
  ylim(c(0, 0.25)) +
  theme_bw() +
  theme(axis.text.x = element_text(angle = 15, hjust = 1))
```

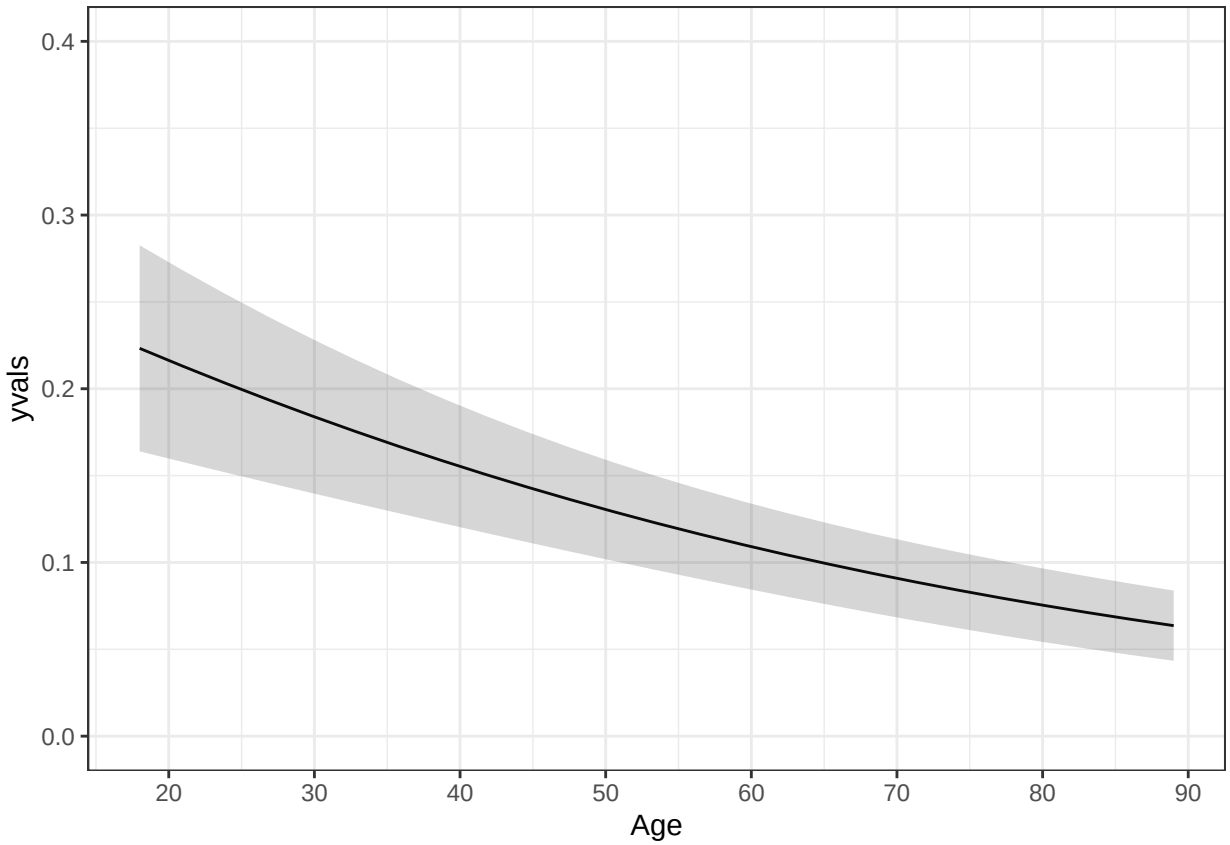



```
cplot(gruene_income, x = "urban_rural_factor", draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_discrete("Urban-Rural",
                   labels = c("Grossstadt", "Rand/Vorort grosser Stadt",
                              "Mittel-oder Kleinstadt", "laendliches Dorf",
                              "Einzelgehoeft")) +
 labs(y = "Predicted Probability of Voting Green") +
```

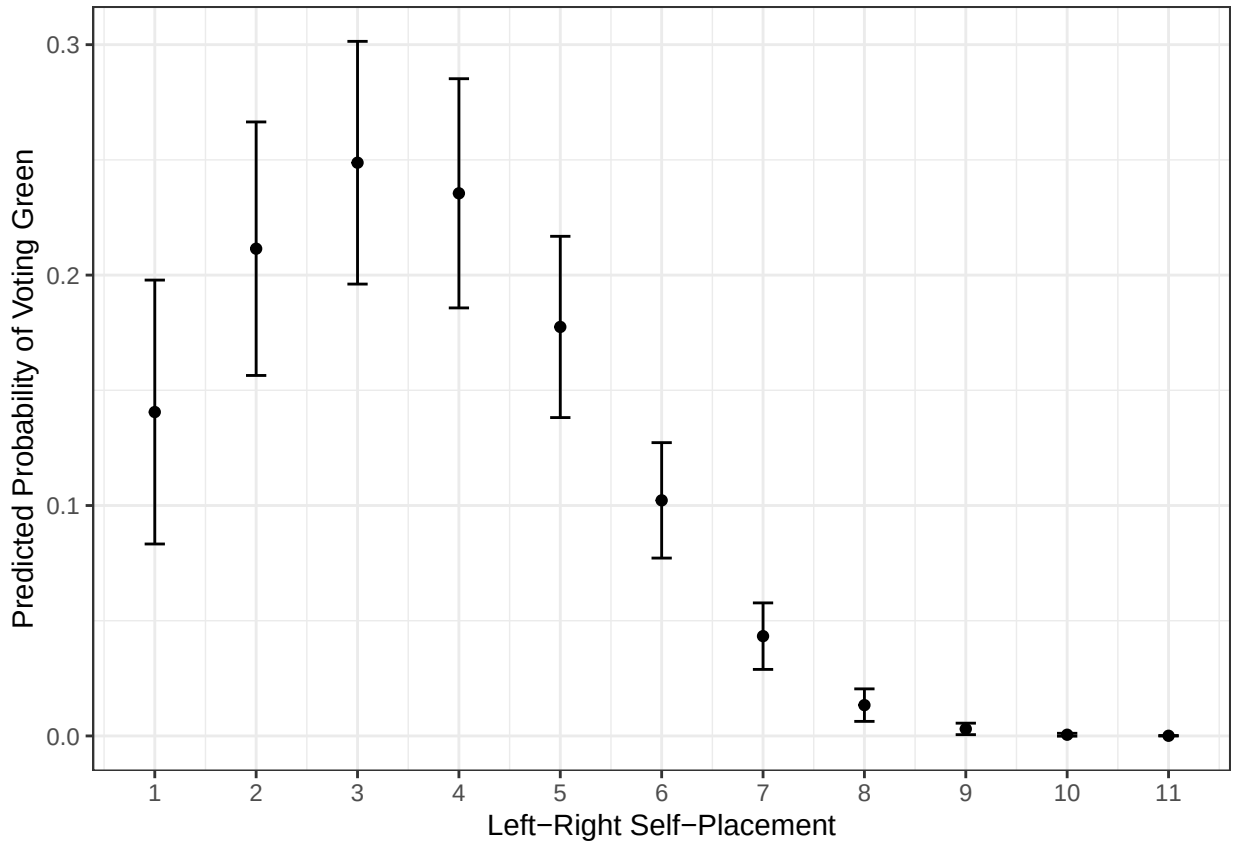
```
  ylim(c(0, 0.25)) +
  theme_bw() +
  theme(axis.text.x = element_text(angle = 15, hjust = 1))
```



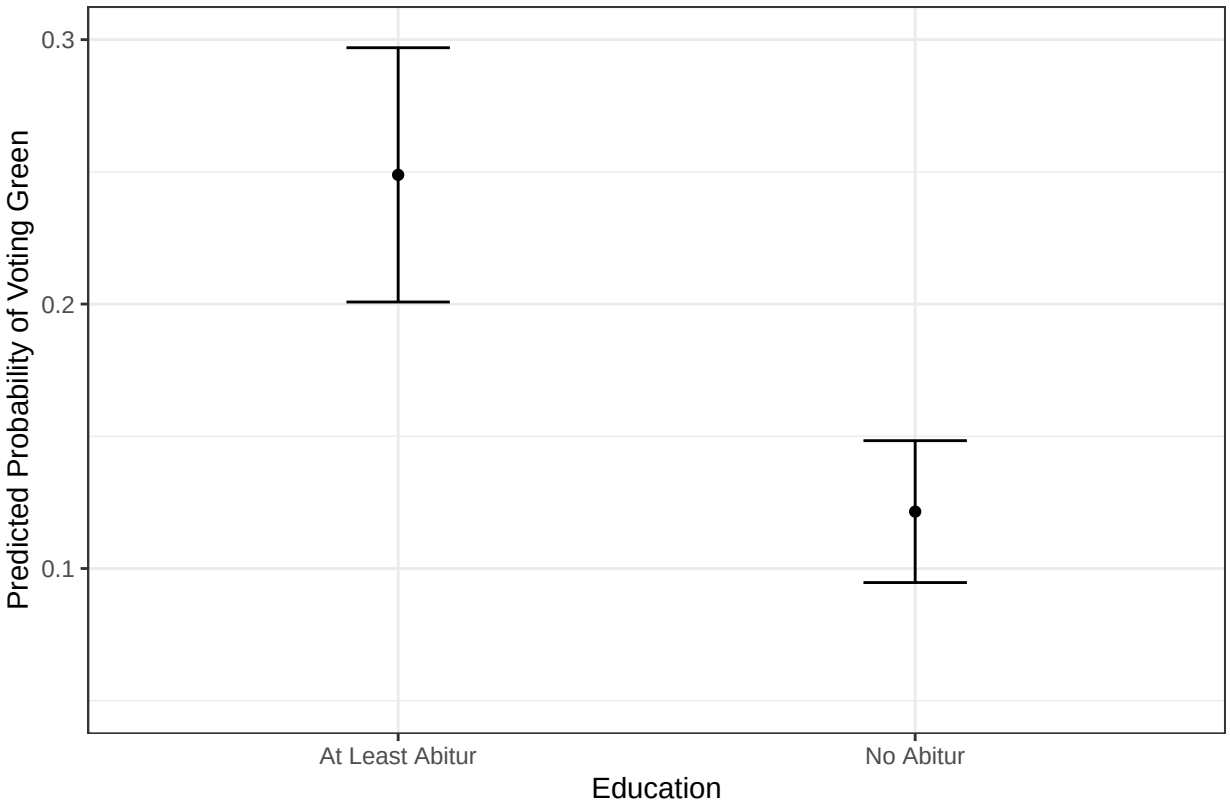

```
# plot
cplot(gruene_income,
      x = "age", draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_line(aes(y = yvals)) +
  geom_ribbon(aes(ymin = lower, ymax = upper), alpha = 0.2) +
  scale_x_continuous("Age", breaks = seq(20, 90, 10)) +
  ylim(c(0, 0.4)) +
  theme_bw()
```




```
gruene_left_right_self <- glm(gruene_21 ~ left_right_self + I(left_right_self^2) + age + abitur_factor +
# plot
cplot(gruene_left_right_self, x = "left_right_self",
      xvals = seq(1, 11, 1),
      draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Left-Right Self-Placement",
                     breaks = seq(1, 11, 1)) +
  labs(y = "Predicted Probability of Voting Green") +
  theme_bw()
```

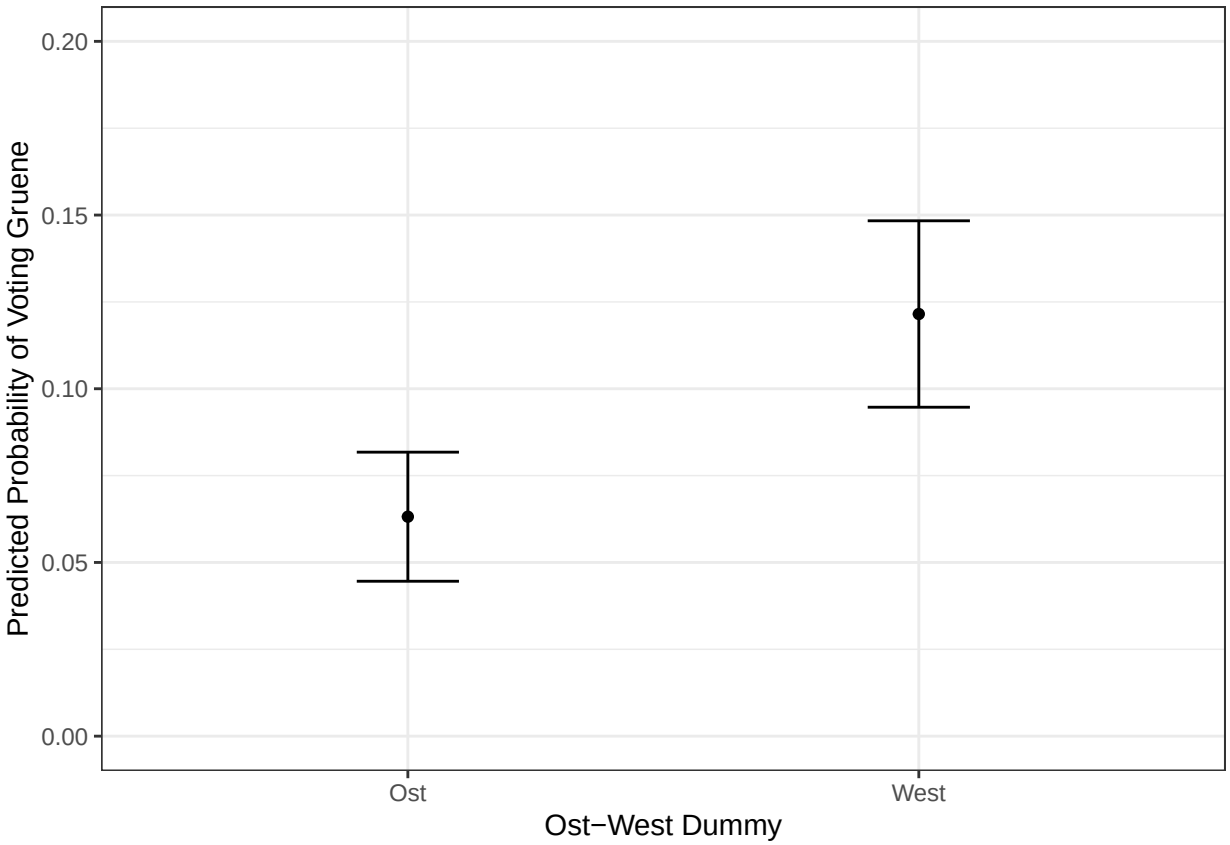



```
cplot(gruene_income, x = "abitur_factor", draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_discrete("Education", labels = c("At Least Abitur",
                                           "No Abitur")) +
  labs(y = "Predicted Probability of Voting Green",
       caption = "Covariates include: age, household income, sex, rurality of place of residence and an
  ylim(c(0.05, 0.3)) +
  theme_bw()
```



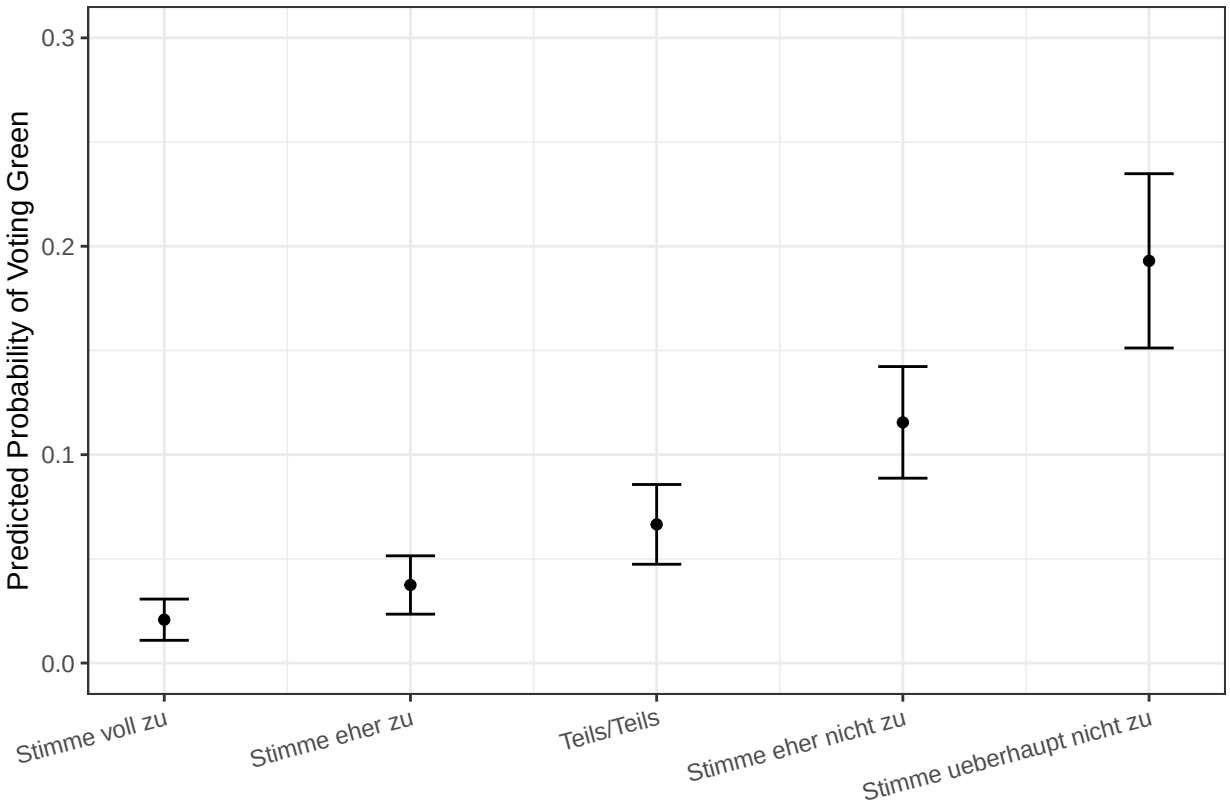
Covariates include: age, household income, sex, rurality of place of residence and an east−west dummy.

```
cplot(gruene_income, x = "ostwest_factor", draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_discrete("Ost-West Dummy", labels = c("Ost", "West")) +
  ylim(c(0, 0.2)) +
  labs(y = "Predicted Probability of Voting Gruene") +
  theme_bw()
```



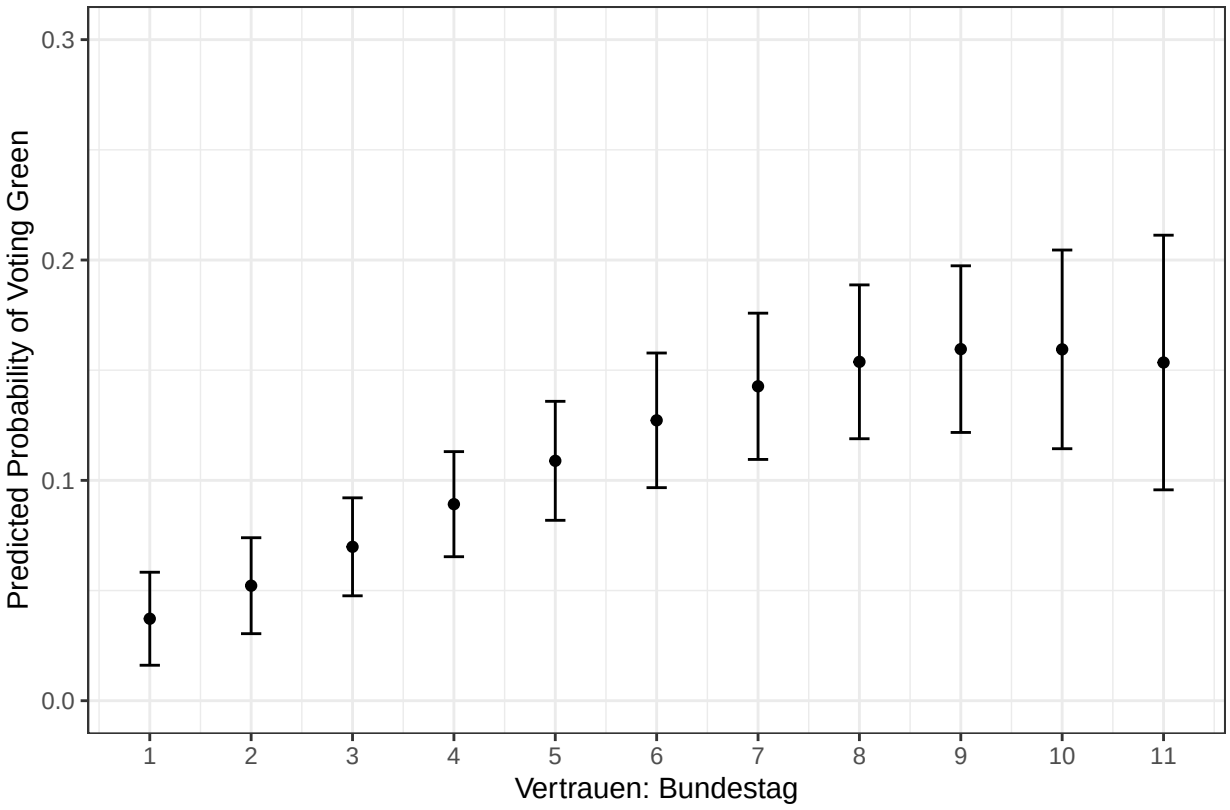
Attiudinal Correlates

```
gruene_cancel <- glm(gruene_21 ~ cancel_culture_subjektiv + household_income + age + abitur_factor + se
# plot
cplot(gruene_cancel, x = "cancel_culture_subjektiv",
      xvals = seq(1, 5, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Subjektiv: Keine freie Meinungsaeusserung moeglich",
                     breaks = seq(1, 5, 1),
                     labels = c("Stimme voll zu", "Stimme eher zu",
                                "Teils/Teils", "Stimme eher nicht zu",
                                "Stimme ueberhaupt nicht zu")) +
  labs(y = "Predicted Probability of Voting Green") +
  ylim(c(0, 0.3)) +
  theme_bw() +
  theme(axis.text.x = element_text(angle = 15, hjust = 1))
```

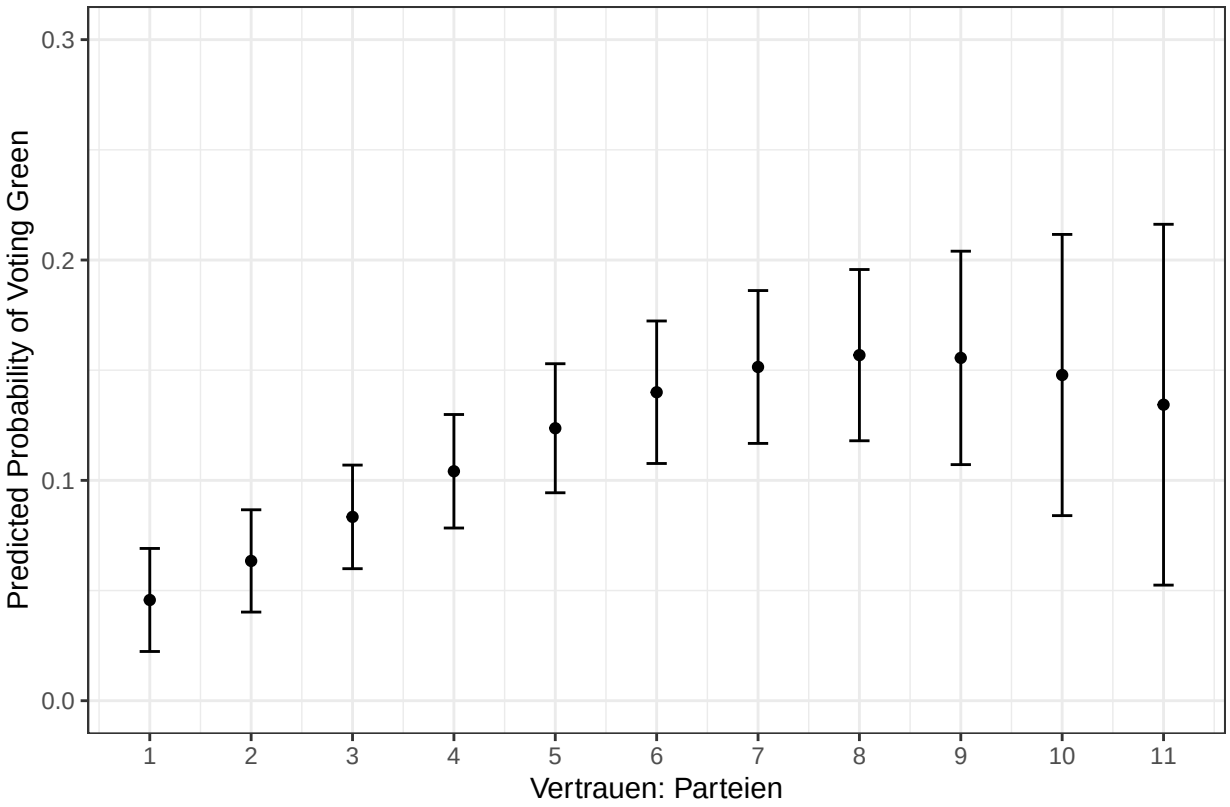


Subjektiv: Keine freie Meinungsaeusserung moeglich

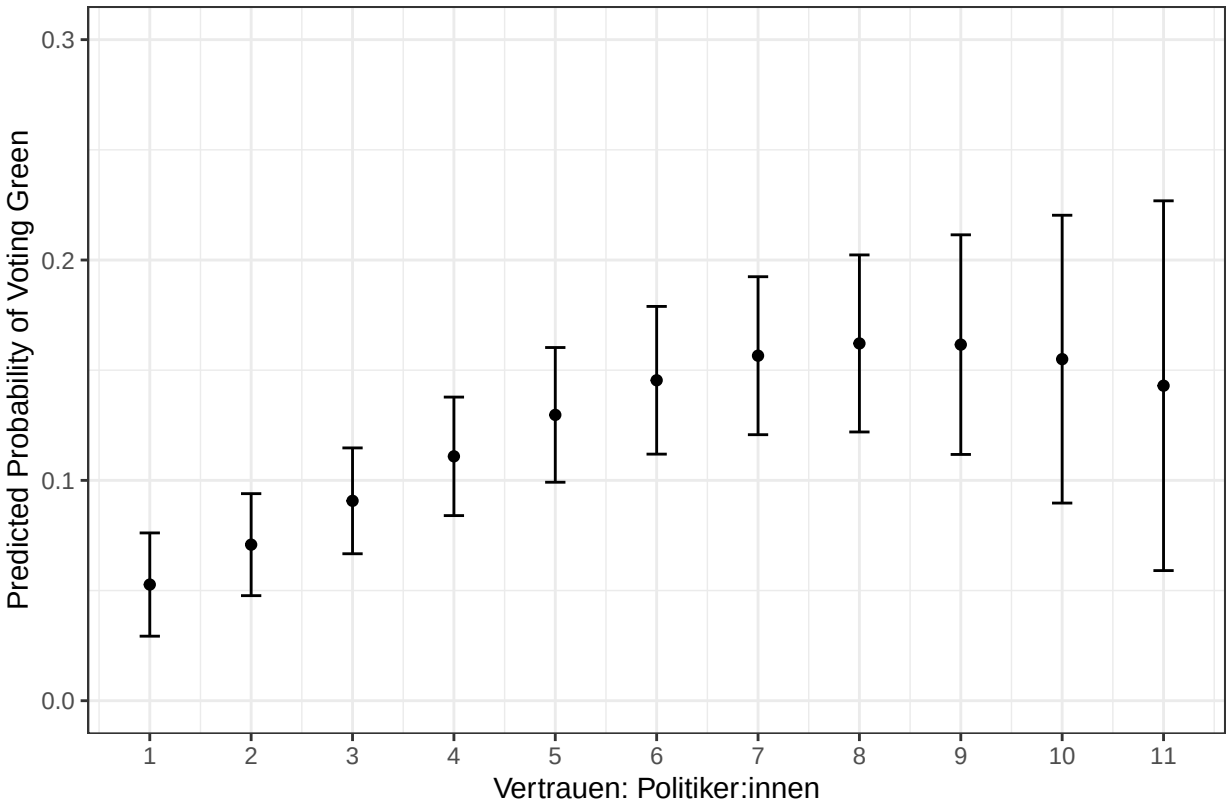
```
gruene_trust_parliament <- glm(gruene_21 ~ trust_in_parliament + I(trust_in_parliament^2) + household_i
# plot
cplot(gruene_trust_parliament, x = "trust_in_parliament",
      xvals = seq(1, 11, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Vertrauen: Bundestag",
                     breaks = seq(1, 11, 1)) +
  labs(y = "Predicted Probability of Voting Green",
       caption = "'1' indicates 'no trust', while 11 indicates 'full trust'.") +
  ylim(c(0, 0.3)) +
  theme_bw()
```




```
gruene_trust_parties <- glm(gruene_21 ~ trust_in_parties + I(trust_in_parties^2) + household_income + ag
# plot
cplot(gruene_trust_parties, x = "trust_in_parties",
      xvals = seq(1, 11, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Vertrauen: Parteien",
                     breaks = seq(1, 11, 1)) +
  labs(y = "Predicted Probability of Voting Green",
       caption = "'1' indicates 'no trust', while 11 indicates 'full trust'.") +
  ylim(c(0, 0.3)) +
  theme_bw()
```

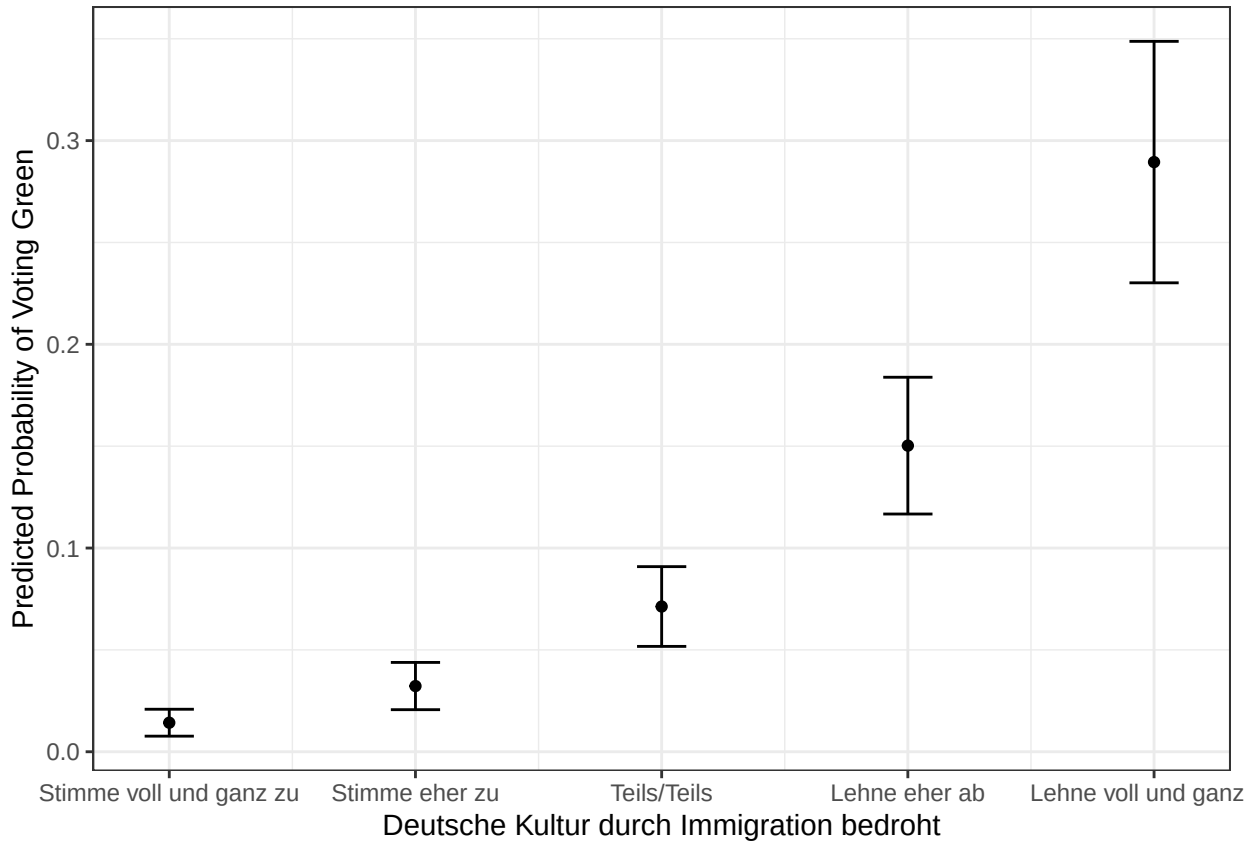



```
gruene_trust_politicians <- glm(gruene_21 ~ trust_in_politicians + I(trust_in_politicians^2) + household
# plot
cplot(gruene_trust_politicians, x = "trust_in_politicians",
      xvals = seq(1, 11, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Vertrauen: Politiker:innen",
                     breaks = seq(1, 11, 1)) +
  labs(y = "Predicted Probability of Voting Green",
       caption = "'1' indicates 'no trust', while 11 indicates 'full trust'.") +
  ylim(c(0, 0.3)) +
  theme_bw()
```

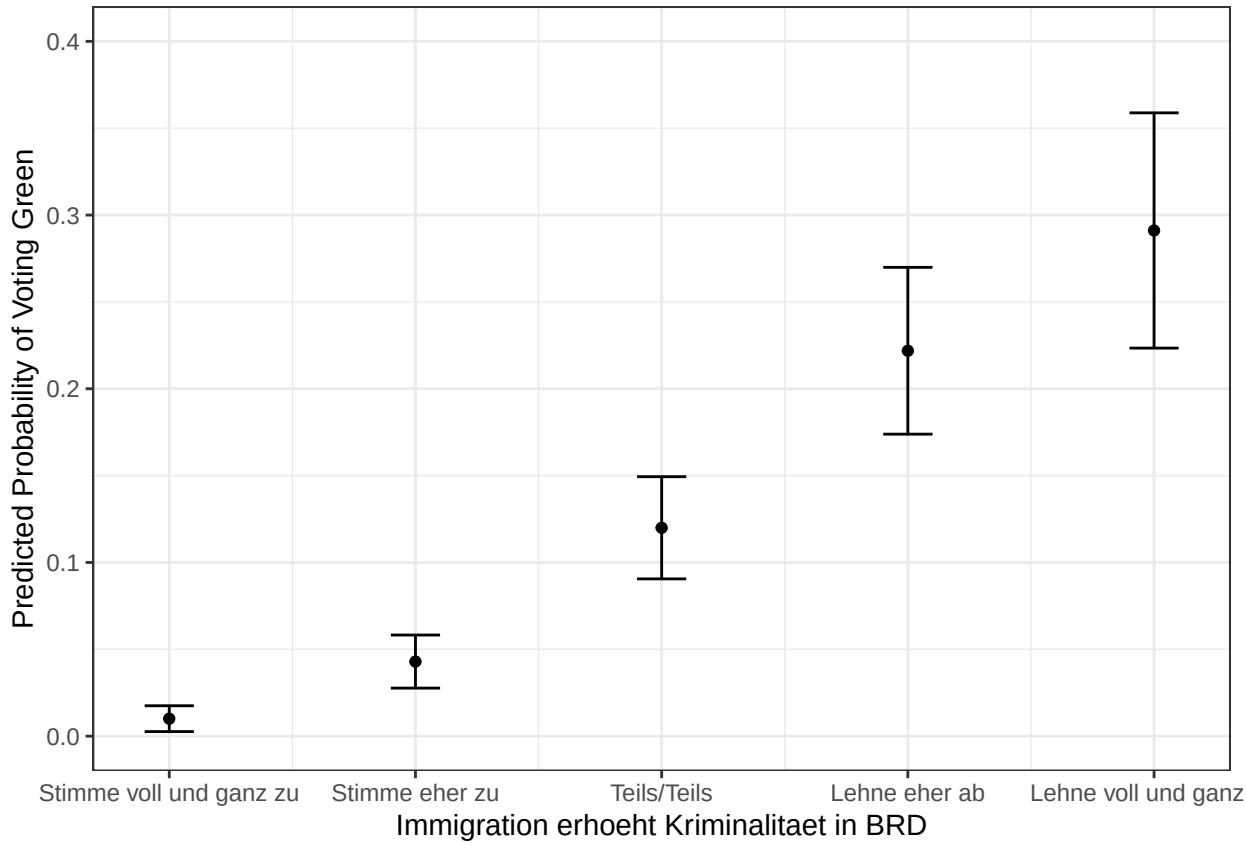


'1' indicates 'no trust', while 11 indicates 'full trust'.

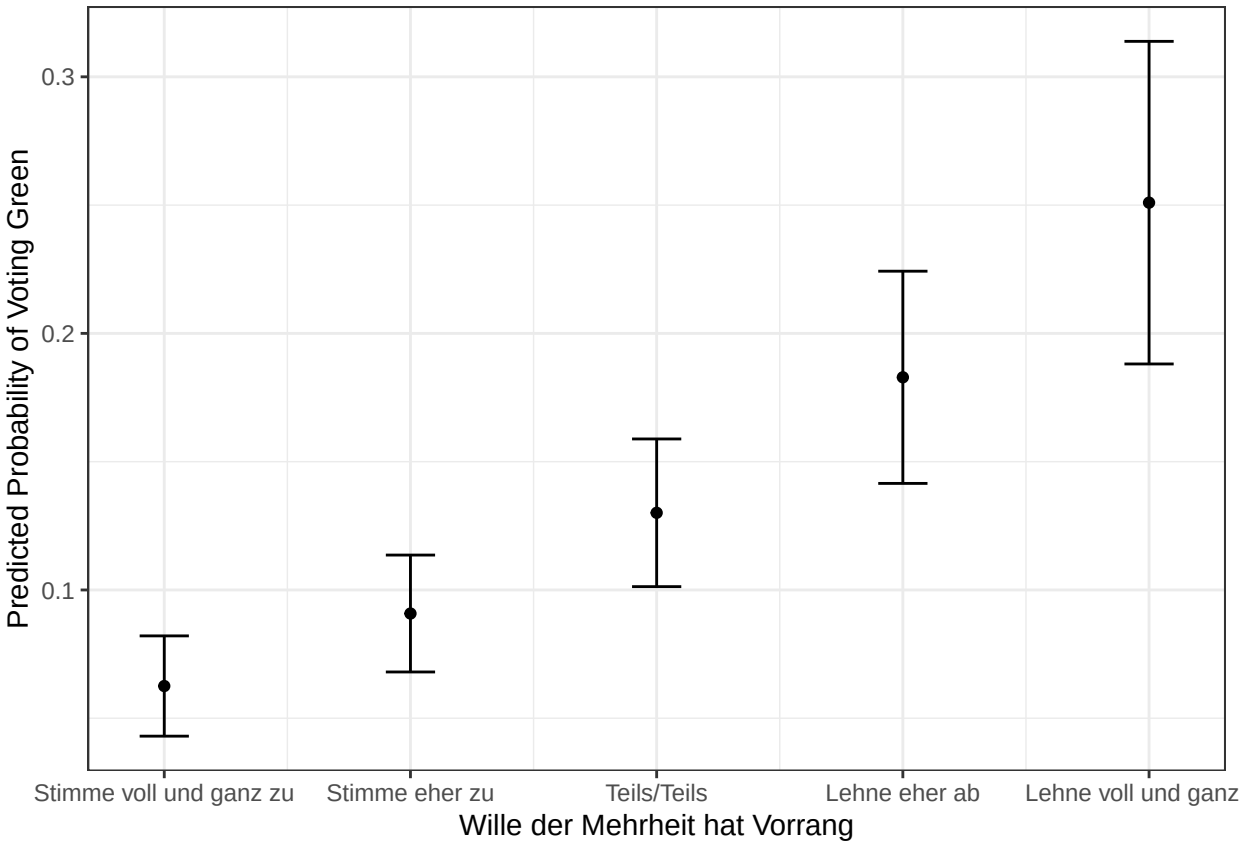
```
gruene_immig_culture_threat <- glm(gruene_21 ~ out_group_immig_culture_threat + household_income + age +
# plot
cplot(gruene_immig_culture_threat, x = "out_group_immig_culture_threat",
      xvals = seq(1, 5, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Deutsche Kultur durch Immigration bedroht",
                     breaks = seq(1, 5, 1),
                     labels = c("Stimme voll und ganz zu", "Stimme eher zu",
                                "Teils/Teils", "Lehne eher ab",
                                "Lehne voll und ganz ab")) +
  labs(y = "Predicted Probability of Voting Green") +
  theme_bw()
```




```
gruene_immig_crime <- glm(gruene_21 ~ out_group_immig_crime + I(out_group_immig_crime^2) + household_in
# plot
cplot(gruene_immig_crime, x = "out_group_immig_crime",
      xvals = seq(1, 5, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Immigration erhoeht Kriminalitaet in BRD",
                     breaks = seq(1, 5, 1),
                     labels = c("Stimme voll und ganz zu", "Stimme eher zu",
                                "Teils/Teils", "Lehne eher ab",
                                "Lehne voll und ganz ab")) +
  labs(y = "Predicted Probability of Voting Green") +
  ylim(c(0, 0.4)) +
  theme_bw()
```




```
gruene_majority <- glm(gruene_21 ~ out_group_majority_will + household_income + age + abitur_factor + s
# plot
cplot(gruene_majority, x = "out_group_majority_will",
      xvals = seq(1, 5, 1), draw = F) %>%
  as_tibble() %>%
  ggplot(aes(x = xvals)) +
  geom_point(aes(y = yvals)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = 0.2) +
  scale_x_continuous("Wille der Mehrheit hat Vorrang",
                     breaks = seq(1, 5, 1),
                     labels = c("Stimme voll und ganz zu", "Stimme eher zu",
                                "Teils/Teils", "Lehne eher ab",
                                "Lehne voll und ganz ab")) +
  labs(y = "Predicted Probability of Voting Green") +
  theme_bw()
```


Predicted Probability of Voting Green
0.3
0.2
0.1
Stimme voll und ganz zu
Stimme eher zu
Teils/Teils
Lehne eher ab
Lehne voll und ganz
Wille der Mehrheit hat Vorrang