Hamner & Kalkan Replication

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Pull in Data

```r
setwd("~/Documents/GitHubRepo/729_Reed_MLE_git/Exam/hanmer")
#data <- read.csv(file = "https://raw.githubusercontent.com/Neilblund/729A/master/data/voterid.csv", he
#or
#data <- read.dta(file = "hk1.dta")
#or
# data <- read.dta13(file = "hyperlink or filename goes here")
#save(data, file = "data.RData")
load("data.RData")
#View(data)
```

Introduction:

```r
#descriptive statistics for all variables
#stargazer(voterid, type = 'text')
# run probit, show results
data <- na.omit(data)
#View(data)
#View(data) - here we put the point prediction that we're looking for.
# If you're using mean, then keep mean.
# If you're using a SD up and down from the mean, then use that.
# If you're using a different range, then use that.
data$mean_gopleg <- mean(data$gopleg)
```

```
## Warning in mean.default(data$gopleg): argument is not numeric or logical:
## returning NA
```

```r
data$sd_gopleg <- 0.5*sd(data$gopleg)
data$med_g = median(data$gopleg)
```

```
## Warning in is.na(x): is.na() applied to non-(list or vector) of type 'NULL'
```

Descriptive statistics

```r
stargazer(data, header = F)
```

```r
# type = 'text',
```

Plot a histogram to see what the data looks like. Identify skewness for determining if using mean, median, or tail.

Statistic	N	Mean	St. Dev.	Min	Max
caseid	383	593.086	352.376	3	1,211
retecon	383	−0.159	0.568	−1.000	1.000
white	383	0.791	0.407	0	1
female	383	0.551	0.498	0	1
age	383	48.005	16.586	18	88
educ1_7	383	4.608	1.596	1	7
income	383	15.856	5.628	1	23
partyid	383	2.966	2.245	0	6
bushiraq	383	0.400	0.427	0.000	1.000
bushvote	383	0.512	0.501	0	1
ideol	383	4.305	1.412	1	7

Calculate the average effect of `variable name` using observed values.

The logit model.

A table of the logit model.

The logit predicted probabilities.

Calculate the average effects with a logit model.

A way to do this with probit.

```r
# run probit, show results
(model_1p <- glm('bushvote ~ retecon + partyid +
                bushiraq + ideol +
                white + female + age +
                educ1_7 + income',
            family = binomial(link = "probit"),
            data = data))
```

```
##
## Call:  glm(formula = "bushvote ~ retecon + partyid +\n                bushiraq + ideol + \n
## 	family = binomial(link = "probit"), data = data)
##
## Coefficients:
## (Intercept)       retecon       partyid       bushiraq         ideol
##    -2.611185      0.871338      0.583033      2.130149      0.180547
##        white        female           age       educ1_7        income
##     0.091140     -0.080501     -0.003582     -0.076131      0.014432
##
## Degrees of Freedom: 382 Total (i.e. Null);  373 Residual
## Null Deviance:        530.7
## Residual Deviance: 120.8      AIC: 140.8
```

A table printout of the probit model.

```r
# summary(model_1p)
stargazer(model_1p,type = 'text', header=F, title = "Hamner & Kilkan Probit Table 1 - Replication")
```

Hamner & Kilkan Probit Table 1 - Replication

```
         Dependent variable:
      ----------------------------
                  NA
```

retecon	0.871*** (0.275)
partyid	0.583*** (0.088)
bushiraq	2.130*** (0.371)
ideol	0.181 (0.130)
white	0.091 (0.306)
female	-0.081 (0.258)
age	-0.004 (0.008)
educ1_7	-0.076 (0.100)
income	0.014 (0.027)
Constant	-2.611*** (0.864)

Observations 383
Log Likelihood -60.414
Akaike Inf. Crit. 140.827
== Note: $p<0.1$; **$p<0.05$;**
p<0.01

Calculate the predicted probabilities in the probit model.

A summary of the probit test.

Calculate the average effects and difference for a probit model.

Summary: Interpreting the Coefficients, include the AIC

Log Likelihood

Deviances

Bayes

AIC

Simulations:

Violin Plots of the Simulation