```
R version 4.4.0 (2024-04-24) -- "Puppy Cup"
Copyright (C) 2024 The R Foundation for Statistical Computing
Platform: aarch64-apple-darwin20

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  Natural language support but running in an English locale

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'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[R.app GUI 1.80 (8376) aarch64-apple-darwin20]

[History restored from /Users/js122/.Rapp.history]

> ##########################################
> ### LANE AND SCHOENHERR CITE AND SWAY? ###
> ##########################################
>
> # Purpose:
> # - Replicate Table 4
> # - Prepare data for Figures 2 and 3, produced in Analysis2Plots.R
>
> # Data Sources:
> # - Analysis2Data.csv
>
> # Run on:
> # - R 4.4.0 ("Puppy Cup") on macOS Sequoia 15.1.1.
>
> # Associated codebook:
> # - Analysis2Codebook.pdf
>
> ##########################################
> ##########################################
> ##########################################
>
> library(foreign)
Warning message:
package ‘foreign’ was built under R version 4.4.1
> library(arm)
Loading required package: MASS
Loading required package: Matrix
Loading required package: lme4

arm (Version 1.14-4, built: 2024-4-1)

Working directory is /Users/js122/Library/CloudStorage/Dropbox/VanityCitations/JOP Final/Dataverse

> library(readxl)
> library(lattice)
```

```
> library(tidyverse)
── Attaching core tidyverse packages ──────────────────────────────────────── tidyverse 2.0.0 ──
✔ dplyr     1.1.4     ✔ readr     2.1.5
✔ forcats   1.0.0     ✔ stringr   1.5.1
✔ ggplot2   3.5.2     ✔ tibble    3.2.1
✔ lubridate 1.9.3     ✔ tidyr     1.3.1
✔ purrr     1.0.2
── Conflicts ────────────────────────────────────────────────────────── tidyverse_conflicts() ──
✖ tidyr::expand() masks Matrix::expand()
✖ dplyr::filter() masks stats::filter()
✖ dplyr::lag()    masks stats::lag()
✖ tidyr::pack()   masks Matrix::pack()
✖ dplyr::select() masks MASS::select()
✖ tidyr::unpack() masks Matrix::unpack()
ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
Warning message:
package ‘ggplot2’ was built under R version 4.4.1
> library(stargazer)

Please cite as:

 Hlavac, Marek (2022). stargazer: Well-Formatted Regression and Summary Statistics Tables.
 R package version 5.2.3. https://CRAN.R-project.org/package=stargazer

> library(faraway)

Attaching package: ‘faraway’

The following object is masked from ‘package:lattice’:

    melanoma

The following objects are masked from ‘package:arm’:

    fround, logit, pfround

> library(lme4)
>
> ######################################
> ### STEP 0: SET WORKDING DIRECTORY ###
> ######################################
>
> #setwd()
>
> ########################################
> ### STEP 1: PULL IN THE MODEL 2 DATA ###
> ########################################
>
> model2data <- read.csv("~/Dropbox/VanityCitations/JOP\ Final/Dataverse/Analysis2Data.csv")
> #model2data <- read.csv("~/Dropbox/VanityCitations/Data/Models/Model2Analysis20250423.csv")
>
> ############################################
> ### STEP 2: PRE-PROCESS SOME OF THE DATA ###
> ############################################
>
> model2data$logPetBriefExperience <- log(model2data$petBriefExperience + 1)
> model2data$logRespBriefExperience <- log(model2data$respBriefExperience + 1)
>
```

```
> model2data$logPetNumCites <- log(model2data$petNumCites + 1)
> model2data$logRespNumCites <- log(model2data$respNumCites + 1)
>
> # check all the variables to make sure no NAs before running:
> table(is.na(model2data$voteWithPet))

FALSE
21674
> table(is.na(model2data$petUnnamedCiteCount))

FALSE
21674
> table(is.na(model2data$petMajCallOutCount))

FALSE
21674
> table(is.na(model2data$petNotMajOpinCount))

FALSE
21674
> table(is.na(model2data$respUnnamedCiteCount))

FALSE
21674
> table(is.na(model2data$respMajCallOutCount))

FALSE
21674
> table(is.na(model2data$respNotMajOpinCount))

FALSE
21674
> table(is.na(model2data$ideoAlign))

FALSE
21674
> table(is.na(model2data$logPetBriefExperience))

FALSE
21674
> table(is.na(model2data$logRespBriefExperience))

FALSE
21674
> table(is.na(model2data$sgParty))

FALSE
21674
> table(is.na(model2data$helpOSG))

FALSE
21674
> table(is.na(model2data$amiciNet))

FALSE
21674
> table(is.na(model2data$petFormerClerk))
```

```
FALSE
21674
> table(is.na(model2data$respFormerClerk))

FALSE
21674
> table(is.na(model2data$netStatus))

FALSE
21674
> table(is.na(model2data$lcDisagreement))

FALSE  TRUE
21665     9
> model2data <- model2data %>% filter(!is.na(lcDisagreement))
> table(is.na(model2data$CSI))

FALSE
21665
> table(is.na(model2data$pastExpertise))

FALSE
21665
> table(is.na(model2data$petNumCites))

FALSE
21665
> table(is.na(model2data$respNumCites))

FALSE
21665
> table(is.na(model2data$petQuestionsOA))

FALSE
21665
> table(is.na(model2data$respQuestionsOA))

FALSE
21665
> table(is.na(model2data$justice))

FALSE
21665
> table(is.na(model2data$issueArea))

FALSE
21665
> table(is.na(model2data$term))

FALSE
21665
>
> # convert the three levels to factors
> model2data$justice <- as.factor(model2data$justice)
> model2data$issueArea <- as.factor(model2data$issueArea)
> model2data$term <- as.factor(model2data$term)
>
> ######################
```

```
> ### STEP 3: MODEL ###
> ######################
>
> model2data$petUnnamedCiteLog <- log(model2data$petUnnamedCiteCount + 1)
> model2data$petMajCallOutLog <- log(model2data$petMajCallOutCount + 1)
> model2data$petNotMajOpinLog <- log(model2data$petNotMajOpinCount + 1)
> model2data$respUnnamedCiteLog <- log(model2data$respUnnamedCiteCount + 1)
> model2data$respMajCallOutLog <- log(model2data$respMajCallOutCount + 1)
> model2data$respNotMajOpinLog <- log(model2data$respNotMajOpinCount + 1)
> model2data$pastExpertiseLog <- log(model2data$pastExpertise + 1)
> model2data$oaQuestDiff <- model2data$petQuestionsOA - model2data$respQuestionsOA
> model2data$petExperienceAdvantage <- model2data$petBriefExperience - model2data$respBriefExperience
>
> model2logCites <- glmer(voteWithPet ~ petUnnamedCiteLog
+                           + petMajCallOutLog
+                           + petNotMajOpinLog
+                           + respUnnamedCiteLog
+                           + respMajCallOutLog
+                           + respNotMajOpinLog
+                           + ideoAlign
+                           + pastExpertise
+                           + logPetNumCites
+                           + logRespNumCites
+                           + petExperienceAdvantage
+                           + sgParty
+                           + lcDisagreement
+                           + amiciNet
+                           + helpOSG
+                           + netStatus
+                           + oaQuestDiff
+                           + petUnnamedCiteLog * ideoAlign
+                           + petMajCallOutLog * ideoAlign
+                           + petNotMajOpinLog * ideoAlign
+                           + respUnnamedCiteLog * ideoAlign
+                           + respMajCallOutLog * ideoAlign
+                           + respNotMajOpinLog * ideoAlign
+                           + (1 | issueArea)
+                           + (1 | term)
+                           + (1 | justice),
+                           data = model2data,
+                           family = binomial(link = logit),
+                           glmerControl(optimizer = "Nelder_Mead"))
Warning message:
In checkConv(attr(opt, "derivs"), opt$par, ctrl = control$checkConv,  :
  Model is nearly unidentifiable: very large eigenvalue
 - Rescale variables?
>
> summary(model2logCites)
Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']
 Family: binomial  ( logit )
Formula: voteWithPet ~ petUnnamedCiteLog + petMajCallOutLog + petNotMajOpinLog +
    respUnnamedCiteLog + respMajCallOutLog + respNotMajOpinLog +
    ideoAlign + pastExpertise + logPetNumCites + logRespNumCites +
    petExperienceAdvantage + sgParty + lcDisagreement + amiciNet +
    helpOSG + netStatus + oaQuestDiff + petUnnamedCiteLog * ideoAlign +
    petMajCallOutLog * ideoAlign + petNotMajOpinLog * ideoAlign +
    respUnnamedCiteLog * ideoAlign + respMajCallOutLog * ideoAlign +
    respNotMajOpinLog * ideoAlign + (1 | issueArea) + (1 | term) +      (1 | justice)
```

```
   Data: model2data
Control: glmerControl(optimizer = "Nelder_Mead")

     AIC      BIC   logLik deviance df.resid
 27122.3  27337.9 -13534.2  27068.3    21638

Scaled residuals:
    Min      1Q  Median      3Q     Max
-5.8400 -0.9639  0.5192  0.7875  4.3688

Random effects:
 Groups    Name        Variance Std.Dev.
 term      (Intercept) 0.03115  0.1765
 justice   (Intercept) 0.02979  0.1726
 issueArea (Intercept) 0.02347  0.1532
Number of obs: 21665, groups:  term, 35; justice, 21; issueArea, 12

Fixed effects:
                              Estimate Std. Error z value Pr(>|z|)
(Intercept)                  0.5929587  0.1236264   4.796 1.62e-06 ***
petUnnamedCiteLog            0.1997165  0.0240025   8.321  < 2e-16 ***
petMajCallOutLog            -0.0779729  0.1358717  -0.574 0.566055
petNotMajOpinLog             0.1757396  0.0455938   3.854 0.000116 ***
respUnnamedCiteLog          -0.1502855  0.0238527  -6.301 2.97e-10 ***
respMajCallOutLog            0.0328460  0.1281554   0.256 0.797721
respNotMajOpinLog           -0.0324422  0.0452743  -0.717 0.473640
ideoAlign                    0.0786408  0.0096581   8.142 3.87e-16 ***
pastExpertise                0.0005658  0.0005267   1.074 0.282700
logPetNumCites               0.0364334  0.0261349   1.394 0.163302
logRespNumCites             -0.1215394  0.0265410  -4.579 4.67e-06 ***
petExperienceAdvantage       0.0004846  0.0003534   1.371 0.170292
sgParty                      0.5904541  0.0276380  21.364  < 2e-16 ***
lcDisagreement               0.0193923  0.0338442   0.573 0.566653
amiciNet                     0.0469196  0.0040624  11.550  < 2e-16 ***
helpOSG                      0.6741170  0.0417838  16.133  < 2e-16 ***
netStatus                   -0.0036971  0.0035672  -1.036 0.300011
oaQuestDiff                 -0.0164159  0.0006776 -24.226  < 2e-16 ***
petUnnamedCiteLog:ideoAlign  0.0236771  0.0101044   2.343 0.019116 *
petMajCallOutLog:ideoAlign  -0.1197142  0.0635433  -1.884 0.059568 .
petNotMajOpinLog:ideoAlign  -0.0172461  0.0201958  -0.854 0.393136
respUnnamedCiteLog:ideoAlign -0.0258483  0.0098780  -2.617 0.008877 **
respMajCallOutLog:ideoAlign  0.0119293  0.0640039   0.186 0.852144
respNotMajOpinLog:ideoAlign  0.0129073  0.0203775   0.633 0.526468
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Correlation matrix not shown by default, as p = 24 > 12.
Use print(x, correlation=TRUE)  or
    vcov(x)        if you need it

optimizer (Nelder_Mead) convergence code: 0 (OK)
Model is nearly unidentifiable: very large eigenvalue
 - Rescale variables?

> display(model2logCites)
glmer(formula = voteWithPet ~ petUnnamedCiteLog + petMajCallOutLog +
    petNotMajOpinLog + respUnnamedCiteLog + respMajCallOutLog +
    respNotMajOpinLog + ideoAlign + pastExpertise + logPetNumCites +
```

```
    logRespNumCites + petExperienceAdvantage + sgParty + lcDisagreement +
    amiciNet + helpOSG + netStatus + oaQuestDiff + petUnnamedCiteLog *
    ideoAlign + petMajCallOutLog * ideoAlign + petNotMajOpinLog *
    ideoAlign + respUnnamedCiteLog * ideoAlign + respMajCallOutLog *
    ideoAlign + respNotMajOpinLog * ideoAlign + (1 | issueArea) +
    (1 | term) + (1 | justice), data = model2data, family = binomial(link = logit),
    control = glmerControl(optimizer = "Nelder_Mead"))
                             coef.est coef.se
(Intercept)                   0.59     0.12
petUnnamedCiteLog             0.20     0.02
petMajCallOutLog             -0.08     0.14
petNotMajOpinLog              0.18     0.05
respUnnamedCiteLog           -0.15     0.02
respMajCallOutLog             0.03     0.13
respNotMajOpinLog            -0.03     0.05
ideoAlign                     0.08     0.01
pastExpertise                 0.00     0.00
logPetNumCites                0.04     0.03
logRespNumCites              -0.12     0.03
petExperienceAdvantage        0.00     0.00
sgParty                       0.59     0.03
lcDisagreement                0.02     0.03
amiciNet                      0.05     0.00
helpOSG                       0.67     0.04
netStatus                     0.00     0.00
oaQuestDiff                  -0.02     0.00
petUnnamedCiteLog:ideoAlign   0.02     0.01
petMajCallOutLog:ideoAlign   -0.12     0.06
petNotMajOpinLog:ideoAlign   -0.02     0.02
respUnnamedCiteLog:ideoAlign -0.03     0.01
respMajCallOutLog:ideoAlign   0.01     0.06
respNotMajOpinLog:ideoAlign   0.01     0.02

Error terms:
 Groups    Name        Std.Dev.
 term      (Intercept) 0.18
 justice   (Intercept) 0.17
 issueArea (Intercept) 0.15
 Residual              1.00
---
number of obs: 21665, groups: term, 35; justice, 21; issueArea, 12
AIC = 27122.3, DIC = 26737.7
deviance = 26903.0
>
> ####################################
> ### STEP 3B: WRITE OUT THE TABLE ###
> ####################################
>
> stargazer(model2logCites, align = TRUE, omit.stat=c("LL", "ser", "f"))

% Table created by stargazer v.5.2.3 by Marek Hlavac, Social Policy Institute. E-mail: marek.hlavac at
gmail.com
% Date and time: Sun, Jun 15, 2025 - 20:23:57
% Requires LaTeX packages: dcolumn
\begin{table}[!htbp] \centering
  \caption{}
  \label{}
\begin{tabular}{@{\extracolsep{5pt}}lD{.}{.}{-3} }
```

```
\\[-1.8ex]\hline
\hline \\[-1.8ex]
 & \multicolumn{1}{c}{\textit{Dependent variable:}} \\
\cline{2-2}
\\[-1.8ex] & \multicolumn{1}{c}{voteWithPet} \\
\hline \\[-1.8ex]
 petUnnamedCiteLog & 0.200^{***} \\
  & (0.024) \\
  & \\
 petMajCallOutLog & -0.078 \\
  & (0.136) \\
  & \\
 petNotMajOpinLog & 0.176^{***} \\
  & (0.046) \\
  & \\
 respUnnamedCiteLog & -0.150^{***} \\
  & (0.024) \\
  & \\
 respMajCallOutLog & 0.033 \\
  & (0.128) \\
  & \\
 respNotMajOpinLog & -0.032 \\
  & (0.045) \\
  & \\
 ideoAlign & 0.079^{***} \\
  & (0.010) \\
  & \\
 pastExpertise & 0.001 \\
  & (0.001) \\
  & \\
 logPetNumCites & 0.036 \\
  & (0.026) \\
  & \\
 logRespNumCites & -0.122^{***} \\
  & (0.027) \\
  & \\
 petExperienceAdvantage & 0.0005 \\
  & (0.0004) \\
  & \\
 sgParty & 0.590^{***} \\
  & (0.028) \\
  & \\
 lcDisagreement & 0.019 \\
  & (0.034) \\
  & \\
 amiciNet & 0.047^{***} \\
  & (0.004) \\
  & \\
 helpOSG & 0.674^{***} \\
  & (0.042) \\
  & \\
 netStatus & -0.004 \\
  & (0.004) \\
  & \\
 oaQuestDiff & -0.016^{***} \\
  & (0.001) \\
  & \\
 petUnnamedCiteLog:ideoAlign & 0.024^{**} \\
```

```
  & (0.010) \\
  & \\
 petMajCallOutLog:ideoAlign & -0.120^{*} \\
  & (0.064) \\
  & \\
 petNotMajOpinLog:ideoAlign & -0.017 \\
  & (0.020) \\
  & \\
 respUnnamedCiteLog:ideoAlign & -0.026^{***} \\
  & (0.010) \\
  & \\
 respMajCallOutLog:ideoAlign & 0.012 \\
  & (0.064) \\
  & \\
 respNotMajOpinLog:ideoAlign & 0.013 \\
  & (0.020) \\
  & \\
 Constant & 0.593^{***} \\
  & (0.124) \\
  & \\
\hline \\[-1.8ex]
Observations & \multicolumn{1}{c}{21,665} \\
Akaike Inf. Crit. & \multicolumn{1}{c}{27,122.320} \\
Bayesian Inf. Crit. & \multicolumn{1}{c}{27,337.880} \\
\hline
\hline \\[-1.8ex]
\textit{Note:}  & \multicolumn{1}{r}{$^{*}$p$<$0.1; $^{**}$p$<$0.05; $^{***}$p$<$0.01} \\
\end{tabular}
\end{table}
>
> ###################################
> ### STEP 3C: KEEP FOR REFERENCE ###
> ###################################
>
> # summary statistics
> summary(model2data$petUnnamedCiteLog)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
 0.0000  0.0000  0.0000  0.6918  1.0986  5.3230
> summary(model2data$petMajCallOutLog)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
0.00000 0.00000 0.00000 0.01439 0.00000 1.94591
> summary(model2data$petNotMajOpinLog)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
 0.0000  0.0000  0.0000  0.1238  0.0000  3.7377
> summary(model2data$respUnnamedCiteLog)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
 0.0000  0.0000  0.6931  0.7426  1.3863  4.8598
> summary(model2data$respMajCallOutLog)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
0.00000 0.00000 0.00000 0.01558 0.00000 2.19722
> summary(model2data$respNotMajOpinLog)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
 0.0000  0.0000  0.0000  0.1246  0.0000  3.0910
>
> ################################################
> ### STEP 4: PREP FOR PREDICTED PROBABILITIES ###
> ################################################
>
```

```
> ### create the datasets for predProbs for the different intercepts
> model2data <- model2data %>% arrange(term, justice, issueArea)
> model2data$count <- 1
>
> # term
> term <- model2data %>% pivot_wider(names_from = term, values_from = count, values_fill = 0)
> term <- term[134:168]
>
> # issueArea
> issueArea <- model2data %>% pivot_wider(names_from = issueArea, values_from = count, values_fill =
0)
> issueArea <- issueArea[134:145]
>
> # justice
> justice <- model2data %>% pivot_wider(names_from = justice, values_from = count, values_fill = 0)
> justice <- justice[134:154]
>
> ########################################
> ### STEP 5: PREDICTED PROBABILITIES ###
> ########################################
>
> # values needed: (0.05 = 0, 0.95 = 11)
> # remember the converstion is ln(x+1) to avoid indefinite answers
> # - numbers below are x, not x+1, but you need x+1 to calculate
> # 0 - 0
> # 1 - 0.693147
> # 2 - 1.098612
> # 3 - 1.386294
> # 4 - 1.609438
> # 5 - 1.791959
> # 6 - 1.945910
> # 7 - 2.079442
> # 8 - 2.197225
> # 9 - 2.302585
> # 10 - 2.397895
> # 11 - 2.484907
>
> ### petUnnamedCiteLog x ideoAlign
> # low = quantile(model2data$ideoAlign, 0.1) = -2.909
> # medium = quantile(model2data$ideoAlign, 0.5) = 0.077
> # high = quantile(model2data$ideoAlign, 0.9) = 2.918
> # this is Thomas/Ginsburg area
> # - so align is Ginsburg + Planned Parenthood or Thomas and the NRA
> # - Not aligned is Ginsburg + NRA, Thomas + Planned Parenthood
>
> ###################################
> ### STEP 5A: PET PASSIVE CITES ###
> ###################################
>
> set.seed(19870302)
> n.draws <- 1000
> sim.coef <- coef(sim(model2logCites, n.draws))
> colnames(as.data.frame(sim.coef))
 [1] "fixef..Intercept."                 "fixef.petUnnamedCiteLog"
 [3] "fixef.petMajCallOutLog"            "fixef.petNotMajOpinLog"
 [5] "fixef.respUnnamedCiteLog"          "fixef.respMajCallOutLog"
 [7] "fixef.respNotMajOpinLog"           "fixef.ideoAlign"
 [9] "fixef.pastExpertise"               "fixef.logPetNumCites"
```

```
[11] "fixef.logRespNumCites"              "fixef.petExperienceAdvantage"
[13] "fixef.sgParty"                      "fixef.lcDisagreement"
[15] "fixef.amiciNet"                     "fixef.helpOSG"
[17] "fixef.netStatus"                    "fixef.oaQuestDiff"
[19] "fixef.petUnnamedCiteLog.ideoAlign"  "fixef.petMajCallOutLog.ideoAlign"
[21] "fixef.petNotMajOpinLog.ideoAlign"   "fixef.respUnnamedCiteLog.ideoAlign"
[23] "fixef.respMajCallOutLog.ideoAlign"  "fixef.respNotMajOpinLog.ideoAlign"
[25] "ranef.term.1984..Intercept."        "ranef.term.1985..Intercept."
[27] "ranef.term.1986..Intercept."        "ranef.term.1987..Intercept."
[29] "ranef.term.1988..Intercept."        "ranef.term.1989..Intercept."
[31] "ranef.term.1990..Intercept."        "ranef.term.1991..Intercept."
[33] "ranef.term.1992..Intercept."        "ranef.term.1993..Intercept."
[35] "ranef.term.1994..Intercept."        "ranef.term.1995..Intercept."
[37] "ranef.term.1996..Intercept."        "ranef.term.1997..Intercept."
[39] "ranef.term.1998..Intercept."        "ranef.term.1999..Intercept."
[41] "ranef.term.2000..Intercept."        "ranef.term.2001..Intercept."
[43] "ranef.term.2002..Intercept."        "ranef.term.2003..Intercept."
[45] "ranef.term.2004..Intercept."        "ranef.term.2005..Intercept."
[47] "ranef.term.2006..Intercept."        "ranef.term.2007..Intercept."
[49] "ranef.term.2008..Intercept."        "ranef.term.2009..Intercept."
[51] "ranef.term.2010..Intercept."        "ranef.term.2011..Intercept."
[53] "ranef.term.2012..Intercept."        "ranef.term.2013..Intercept."
[55] "ranef.term.2014..Intercept."        "ranef.term.2015..Intercept."
[57] "ranef.term.2016..Intercept."        "ranef.term.2017..Intercept."
[59] "ranef.term.2018..Intercept."        "ranef.justice.92..Intercept."
[61] "ranef.justice.95..Intercept."       "ranef.justice.98..Intercept."
[63] "ranef.justice.99..Intercept."       "ranef.justice.100..Intercept."
[65] "ranef.justice.101..Intercept."      "ranef.justice.102..Intercept."
[67] "ranef.justice.103..Intercept."      "ranef.justice.104..Intercept."
[69] "ranef.justice.105..Intercept."      "ranef.justice.106..Intercept."
[71] "ranef.justice.107..Intercept."      "ranef.justice.108..Intercept."
[73] "ranef.justice.109..Intercept."      "ranef.justice.110..Intercept."
[75] "ranef.justice.111..Intercept."      "ranef.justice.112..Intercept."
[77] "ranef.justice.113..Intercept."      "ranef.justice.114..Intercept."
[79] "ranef.justice.115..Intercept."      "ranef.justice.116..Intercept."
[81] "ranef.issueArea.1..Intercept."      "ranef.issueArea.2..Intercept."
[83] "ranef.issueArea.3..Intercept."      "ranef.issueArea.4..Intercept."
[85] "ranef.issueArea.5..Intercept."      "ranef.issueArea.6..Intercept."
[87] "ranef.issueArea.7..Intercept."      "ranef.issueArea.8..Intercept."
[89] "ranef.issueArea.9..Intercept."      "ranef.issueArea.10..Intercept."
[91] "ranef.issueArea.12..Intercept."     "ranef.issueArea.13..Intercept."
> sim.coef <- as.data.frame(sim.coef)
> colnames(sim.coef)
 [1] "fixef..Intercept."                  "fixef.petUnnamedCiteLog"
 [3] "fixef.petMajCallOutLog"             "fixef.petNotMajOpinLog"
 [5] "fixef.respUnnamedCiteLog"           "fixef.respMajCallOutLog"
 [7] "fixef.respNotMajOpinLog"            "fixef.ideoAlign"
 [9] "fixef.pastExpertise"                "fixef.logPetNumCites"
[11] "fixef.logRespNumCites"              "fixef.petExperienceAdvantage"
[13] "fixef.sgParty"                      "fixef.lcDisagreement"
[15] "fixef.amiciNet"                     "fixef.helpOSG"
[17] "fixef.netStatus"                    "fixef.oaQuestDiff"
[19] "fixef.petUnnamedCiteLog.ideoAlign"  "fixef.petMajCallOutLog.ideoAlign"
[21] "fixef.petNotMajOpinLog.ideoAlign"   "fixef.respUnnamedCiteLog.ideoAlign"
[23] "fixef.respMajCallOutLog.ideoAlign"  "fixef.respNotMajOpinLog.ideoAlign"
[25] "ranef.term.1984..Intercept."        "ranef.term.1985..Intercept."
[27] "ranef.term.1986..Intercept."        "ranef.term.1987..Intercept."
[29] "ranef.term.1988..Intercept."        "ranef.term.1989..Intercept."
```

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[31] "ranef.term.1990..Intercept."        "ranef.term.1991..Intercept."
[33] "ranef.term.1992..Intercept."        "ranef.term.1993..Intercept."
[35] "ranef.term.1994..Intercept."        "ranef.term.1995..Intercept."
[37] "ranef.term.1996..Intercept."        "ranef.term.1997..Intercept."
[39] "ranef.term.1998..Intercept."        "ranef.term.1999..Intercept."
[41] "ranef.term.2000..Intercept."        "ranef.term.2001..Intercept."
[43] "ranef.term.2002..Intercept."        "ranef.term.2003..Intercept."
[45] "ranef.term.2004..Intercept."        "ranef.term.2005..Intercept."
[47] "ranef.term.2006..Intercept."        "ranef.term.2007..Intercept."
[49] "ranef.term.2008..Intercept."        "ranef.term.2009..Intercept."
[51] "ranef.term.2010..Intercept."        "ranef.term.2011..Intercept."
[53] "ranef.term.2012..Intercept."        "ranef.term.2013..Intercept."
[55] "ranef.term.2014..Intercept."        "ranef.term.2015..Intercept."
[57] "ranef.term.2016..Intercept."        "ranef.term.2017..Intercept."
[59] "ranef.term.2018..Intercept."        "ranef.justice.92..Intercept."
[61] "ranef.justice.95..Intercept."       "ranef.justice.98..Intercept."
[63] "ranef.justice.99..Intercept."       "ranef.justice.100..Intercept."
[65] "ranef.justice.101..Intercept."      "ranef.justice.102..Intercept."
[67] "ranef.justice.103..Intercept."      "ranef.justice.104..Intercept."
[69] "ranef.justice.105..Intercept."      "ranef.justice.106..Intercept."
[71] "ranef.justice.107..Intercept."      "ranef.justice.108..Intercept."
[73] "ranef.justice.109..Intercept."      "ranef.justice.110..Intercept."
[75] "ranef.justice.111..Intercept."      "ranef.justice.112..Intercept."
[77] "ranef.justice.113..Intercept."      "ranef.justice.114..Intercept."
[79] "ranef.justice.115..Intercept."      "ranef.justice.116..Intercept."
[81] "ranef.issueArea.1..Intercept."      "ranef.issueArea.2..Intercept."
[83] "ranef.issueArea.3..Intercept."      "ranef.issueArea.4..Intercept."
[85] "ranef.issueArea.5..Intercept."      "ranef.issueArea.6..Intercept."
[87] "ranef.issueArea.7..Intercept."      "ranef.issueArea.8..Intercept."
[89] "ranef.issueArea.9..Intercept."      "ranef.issueArea.10..Intercept."
[91] "ranef.issueArea.12..Intercept."     "ranef.issueArea.13..Intercept."
>
> #petPassiveSeq <- seq(from = quantile(model2data$petUnnamedCiteLog, 0.05),
> #                     to = quantile(model2data$petUnnamedCiteLog, 0.95),
> #                     by = 0.1)
>
> petPassiveSeq <- c(0, 0.693147, 1.098612, 1.386294, 1.609438, 1.791959, 1.945910, 2.079442,
2.197225, 2.302585, 2.397895, 2.484907)
>
> pMeanPetPassiveLowCong <- as.matrix(NA, nrow = length(petPassiveSeq))
> pLoPetPassiveLowCong <- as.matrix(NA, nrow = length(petPassiveSeq))
> pHiPetPassiveLowCong <- as.matrix(NA, nrow = length(petPassiveSeq))
>
> pMeanPetPassiveMedCong <- as.matrix(NA, nrow = length(petPassiveSeq))
> pLoPetPassiveMedCong <- as.matrix(NA, nrow = length(petPassiveSeq))
> pHiPetPassiveMedCong <- as.matrix(NA, nrow = length(petPassiveSeq))
>
> pMeanPetPassiveHighCong <- as.matrix(NA, nrow = length(petPassiveSeq))
> pLoPetPassiveHighCong <- as.matrix(NA, nrow = length(petPassiveSeq))
> pHiPetPassiveHighCong <- as.matrix(NA, nrow = length(petPassiveSeq))
>
> pMeanPetPassiveDiffLowHigh <- as.matrix(NA, nrow = length(petPassiveSeq))
> pLoPetPassiveDiffLowHigh <- as.matrix(NA, nrow = length(petPassiveSeq))
> pHiPetPassiveDiffLowHigh <- as.matrix(NA, nrow = length(petPassiveSeq))
>
> pMeanPetPassiveDiffLowMed <- as.matrix(NA, nrow = length(petPassiveSeq))
> pLoPetPassiveDiffLowMed <- as.matrix(NA, nrow = length(petPassiveSeq))
> pHiPetPassiveDiffLowMed <- as.matrix(NA, nrow = length(petPassiveSeq))
```

```
>
> pMeanPetPassiveDiffMedHigh <- as.matrix(NA, nrow = length(petPassiveSeq))
> pLoPetPassiveDiffMedHigh <- as.matrix(NA, nrow = length(petPassiveSeq))
> pHiPetPassiveDiffMedHigh <- as.matrix(NA, nrow = length(petPassiveSeq))
>
> for(i in 1:length(petPassiveSeq)){
+   predPetPassiveLowCong <- cbind(1,
+                            petPassiveSeq[i],
+                            model2data$petMajCallOutLog,
+                            model2data$petNotMajOpinLog,
+                            model2data$respUnnamedCiteLog,
+                            model2data$respMajCallOutLog,
+                            model2data$respNotMajOpinLog,
+                            -2.909,
+                            model2data$pastExpertise,
+                            model2data$logPetNumCites,
+                            model2data$logRespNumCites,
+                            model2data$petExperienceAdvantage,
+                            model2data$sgParty,
+                            model2data$lcDisagreement,
+                            model2data$amiciNet,
+                            model2data$helpOSG,
+                            model2data$netStatus,
+                            model2data$oaQuestDiff,
+                            petPassiveSeq[i] * -2.909,
+                            model2data$petMajCallOutLog * -2.909,
+                            model2data$petNotMajOpinLog * -2.909,
+                            model2data$respUnnamedCiteLog * -2.909,
+                            model2data$respMajCallOutLog * -2.909,
+                            model2data$respNotMajOpinLog * -2.909,
+                            issueArea,
+                            term,
+                            justice
+                            )
+   predPetPassiveLowCong <- as.matrix(predPetPassiveLowCong)
+
+   predPetPassiveMedCong <- cbind(1,
+                            petPassiveSeq[i],
+                            model2data$petMajCallOutLog,
+                            model2data$petNotMajOpinLog,
+                            model2data$respUnnamedCiteLog,
+                            model2data$respMajCallOutLog,
+                            model2data$respNotMajOpinLog,
+                            0.077,
+                            model2data$pastExpertise,
+                            model2data$logPetNumCites,
+                            model2data$logRespNumCites,

+                            model2data$petExperienceAdvantage,
+                            model2data$sgParty,
+                            model2data$lcDisagreement,
+                            model2data$amiciNet,
+                            model2data$helpOSG,
+                            model2data$netStatus,

+                            model2data$oaQuestDiff,
+                            petPassiveSeq[i] * 0.077,
+                            model2data$petMajCallOutLog * 0.077,
```

```
+                           model2data$petNotMajOpinLog * 0.077,
+                           model2data$respUnnamedCiteLog * 0.077,
+                           model2data$respMajCallOutLog * 0.077,
+                           model2data$respNotMajOpinLog * 0.077,
+                           issueArea,
+                           term,
+                           justice
+                           )
+   predPetPassiveMedCong <- as.matrix(predPetPassiveMedCong)
+
+   predPetPassiveHighCong <- cbind(1,
+                           petPassiveSeq[i],
+                           model2data$petMajCallOutLog,
+                           model2data$petNotMajOpinLog,
+                           model2data$respUnnamedCiteLog,
+                           model2data$respMajCallOutLog,
+                           model2data$respNotMajOpinLog,
+                           2.918,
+                           model2data$pastExpertise,
+                           model2data$logPetNumCites,
+                           model2data$logRespNumCites,

+                           model2data$petExperienceAdvantage,
+                           model2data$sgParty,
+                           model2data$lcDisagreement,
+                           model2data$amiciNet,
+                           model2data$helpOSG,
+                           model2data$netStatus,

+                           model2data$oaQuestDiff,
+                           petPassiveSeq[i] * 2.918,
+                           model2data$petMajCallOutLog * 2.918,
+                           model2data$petNotMajOpinLog * 2.918,
+                           model2data$respUnnamedCiteLog * 2.918,
+                           model2data$respMajCallOutLog * 2.918,
+                           model2data$respNotMajOpinLog * 2.918,
+                           issueArea,
+                           term,
+                           justice
+                           )
+   predPetPassiveHighCong <- as.matrix(predPetPassiveHighCong)
+
+   ppPetPassiveLowCong <- as.matrix(NA, row = n.draws)
+   ppPetPassiveMedCong <- as.matrix(NA, row = n.draws)
+   ppPetPassiveHighCong <- as.matrix(NA, row = n.draws)
+   ppPetPassiveDiffLowHigh <- as.matrix(NA, row = n.draws)
+   ppPetPassiveDiffLowMed <- as.matrix(NA, row = n.draws)
+   ppPetPassiveDiffMedHigh <- as.matrix(NA, row = n.draws)
+
+   for(j in 1:n.draws){
+       xbPetPassiveLowCong <- ilogit(predPetPassiveLowCong %*% t(sim.coef[j, ]))
+       ppPetPassiveLowCong[j] <- mean(xbPetPassiveLowCong)
+       xbPetPassiveMedCong <- ilogit(predPetPassiveMedCong %*% t(sim.coef[j, ]))
+       ppPetPassiveMedCong[j] <- mean(xbPetPassiveMedCong)
+       xbPetPassiveHighCong <- ilogit(predPetPassiveHighCong %*% t(sim.coef[j, ]))
+       ppPetPassiveHighCong[j] <- mean(xbPetPassiveHighCong)
+       ppPetPassiveDiffLowHigh[j] <- mean(xbPetPassiveHighCong - xbPetPassiveLowCong)
+       ppPetPassiveDiffLowMed[j] <- mean(xbPetPassiveMedCong - xbPetPassiveLowCong)
```

```
+       ppPetPassiveDiffMedHigh[j] <- mean(xbPetPassiveHighCong - xbPetPassiveMedCong)
+
+   }
+
+   pMeanPetPassiveLowCong[i] <- mean(ppPetPassiveLowCong)
+   pLoPetPassiveLowCong[i] <- quantile(ppPetPassiveLowCong, 0.025, na.rm = TRUE)
+   pHiPetPassiveLowCong[i] <- quantile(ppPetPassiveLowCong, 0.975, na.rm = TRUE)
+
+   pMeanPetPassiveMedCong[i] <- mean(ppPetPassiveMedCong)
+   pLoPetPassiveMedCong[i] <- quantile(ppPetPassiveMedCong, 0.025, na.rm = TRUE)
+   pHiPetPassiveMedCong[i] <- quantile(ppPetPassiveMedCong, 0.975, na.rm = TRUE)
+
+   pMeanPetPassiveHighCong[i] <- mean(ppPetPassiveHighCong)
+   pLoPetPassiveHighCong[i] <- quantile(ppPetPassiveHighCong, 0.025, na.rm = TRUE)
+   pHiPetPassiveHighCong[i] <- quantile(ppPetPassiveHighCong, 0.975, na.rm = TRUE)
+
+   pMeanPetPassiveDiffLowHigh[i] <- mean(ppPetPassiveDiffLowHigh)
+   pLoPetPassiveDiffLowHigh[i] <- quantile(ppPetPassiveDiffLowHigh, 0.025, na.rm = TRUE)
+   pHiPetPassiveDiffLowHigh[i] <- quantile(ppPetPassiveDiffLowHigh, 0.975, na.rm = TRUE)
+
+   pMeanPetPassiveDiffLowMed[i] <- mean(ppPetPassiveDiffLowMed)
+   pLoPetPassiveDiffLowMed[i] <- quantile(ppPetPassiveDiffLowMed, 0.025, na.rm = TRUE)
+   pHiPetPassiveDiffLowMed[i] <- quantile(ppPetPassiveDiffLowMed, 0.975, na.rm = TRUE)
+
+   pMeanPetPassiveDiffMedHigh[i] <- mean(ppPetPassiveDiffMedHigh)
+   pLoPetPassiveDiffMedHigh[i] <- quantile(ppPetPassiveDiffMedHigh, 0.025, na.rm = TRUE)
+   pHiPetPassiveDiffMedHigh[i] <- quantile(ppPetPassiveDiffMedHigh, 0.975, na.rm = TRUE)
+
+ }
>
> cbind(pLoPetPassiveDiffLowHigh, pMeanPetPassiveDiffLowHigh, pHiPetPassiveDiffLowHigh)
      pLoPetPassiveDiffLowHigh pMeanPetPassiveDiffLowHigh pHiPetPassiveDiffLowHigh
 [1,]               0.04735329                0.07397506               0.09816865
 [2,]               0.07640831                0.09341049               0.11005061
 [3,]               0.08612150                0.10410329               0.12307608
 [4,]               0.08901774                0.11133953               0.13432941
 [5,]               0.09051684                0.11673644               0.14316380
 [6,]               0.09103545                0.12100374               0.15048096
 [7,]               0.09159181                0.12449669               0.15768675
 [8,]               0.09173774                0.12744556               0.16351205
 [9,]               0.09164832                0.12998314               0.16804430
[10,]               0.09156170                0.13220188               0.17291657
[11,]               0.09163164                0.13416683               0.17726626
[12,]               0.09175453                0.13592540               0.18065862
> cbind(pLoPetPassiveDiffLowMed, pMeanPetPassiveDiffLowMed, pHiPetPassiveDiffLowMed)
      pLoPetPassiveDiffLowMed pMeanPetPassiveDiffLowMed pHiPetPassiveDiffLowMed
 [1,]              0.02459057               0.03838587              0.05110985
 [2,]              0.03980994               0.04887235              0.05784740
 [3,]              0.04504943               0.05478031              0.06503807
 [4,]              0.04679068               0.05885238              0.07141220
 [5,]              0.04765516               0.06193604              0.07607635
 [6,]              0.04812443               0.06440670              0.08090140
 [7,]              0.04831098               0.06645291              0.08499639
 [8,]              0.04845525               0.06819881              0.08811080
 [9,]              0.04857103               0.06971591              0.09101460
[10,]              0.04866070               0.07105440              0.09380934
[11,]              0.04872986               0.07224981              0.09612249
[12,]              0.04878652               0.07332816              0.09845194
```

```
> cbind(pLoPetPassiveDiffMedHigh, pMeanPetPassiveDiffMedHigh, pHiPetPassiveDiffMedHigh)
      pLoPetPassiveDiffMedHigh pMeanPetPassiveDiffMedHigh pHiPetPassiveDiffMedHigh
 [1,]               0.02282201                0.03558920               0.04716834
 [2,]               0.03650102                0.04453814               0.05234322
 [3,]               0.04105746                0.04932298               0.05822711
 [4,]               0.04249576                0.05248715               0.06305279
 [5,]               0.04291040                0.05480039               0.06708172
 [6,]               0.04297621                0.05659704               0.07000870
 [7,]               0.04323317                0.05804378               0.07243161
 [8,]               0.04315106                0.05924675               0.07495076
 [9,]               0.04304770                0.06026723               0.07723363
[10,]               0.04303868                0.06114748               0.07899445
[11,]               0.04300569                0.06191702               0.08071792
[12,]               0.04296243                0.06259724               0.08226775
>
> counter <- seq(0, 11, by = 1)
>
> petCiteXcong <- data.frame(counter, petPassiveSeq, pLoPetPassiveLowCong, pMeanPetPassiveLowCong,
pHiPetPassiveLowCong, pLoPetPassiveHighCong, pMeanPetPassiveHighCong, pHiPetPassiveHighCong,
pLoPetPassiveMedCong, pMeanPetPassiveMedCong, pHiPetPassiveMedCong)
> colnames(petCiteXcong) <- c("count", "passiveCite", "lbLow", "estLow", "ubLow", "lbHigh", "estHigh",
"ubHigh", "lbMed", "estMed", "ubMed")
> petCiteXcong$pet <- 1
>
> # just for reference - this is not the table in the paper
> #petPassiveCiteTable <- ggplot(petCiteXcong, aes(x = passiveCite)) +
> #             geom_line(aes(y = estLow), color = "red") +
> #             geom_line(aes(y = lbLow), linetype = "dashed", color = "red") +
> #             geom_line(aes(y = ubLow), linetype = "dashed", color = "red") +
> #             geom_line(aes(y = estHigh), color = "blue") +
> #             geom_line(aes(y = lbHigh), linetype = "dashed", color = "blue") +
> #             geom_line(aes(y = ubHigh), linetype = "dashed", color = "blue") +
> #             geom_line(aes(y = estMed), color = "green") +
> #             geom_line(aes(y = lbMed), linetype = "dashed", color = "green") +
> #             geom_line(aes(y = ubMed), linetype = "dashed", color = "green") +
> #             theme_light()

> #petPassiveCiteTable
>
> ###################################
> ### STEP 5B: RESP PASSIVE CITES ###
> ###################################
>
> ### petNotMajOpinLog x ideoAlign
> # low = quantile(model2data$ideoAlign, 0.1) = -2.909
> # medium = quantile(model2data$ideoAlign, 0.5) = 0.077
> # high = quantile(model2data$ideoAlign, 0.9) = 2.918
> # sequence = ln(count + 1), translates to 0-11
>
> set.seed(19870302)
> n.draws <- 1000
> sim.coef <- coef(sim(model2logCites, n.draws))
> colnames(as.data.frame(sim.coef))
 [1] "fixef..Intercept."                 "fixef.petUnnamedCiteLog"
 [3] "fixef.petMajCallOutLog"            "fixef.petNotMajOpinLog"
 [5] "fixef.respUnnamedCiteLog"          "fixef.respMajCallOutLog"
 [7] "fixef.respNotMajOpinLog"           "fixef.ideoAlign"
 [9] "fixef.pastExpertise"               "fixef.logPetNumCites"
```

```
[11] "fixef.logRespNumCites"              "fixef.petExperienceAdvantage"
[13] "fixef.sgParty"                      "fixef.lcDisagreement"
[15] "fixef.amiciNet"                     "fixef.helpOSG"
[17] "fixef.netStatus"                    "fixef.oaQuestDiff"
[19] "fixef.petUnnamedCiteLog.ideoAlign"  "fixef.petMajCallOutLog.ideoAlign"
[21] "fixef.petNotMajOpinLog.ideoAlign"   "fixef.respUnnamedCiteLog.ideoAlign"
[23] "fixef.respMajCallOutLog.ideoAlign"  "fixef.respNotMajOpinLog.ideoAlign"
[25] "ranef.term.1984..Intercept."        "ranef.term.1985..Intercept."
[27] "ranef.term.1986..Intercept."        "ranef.term.1987..Intercept."
[29] "ranef.term.1988..Intercept."        "ranef.term.1989..Intercept."
[31] "ranef.term.1990..Intercept."        "ranef.term.1991..Intercept."
[33] "ranef.term.1992..Intercept."        "ranef.term.1993..Intercept."
[35] "ranef.term.1994..Intercept."        "ranef.term.1995..Intercept."
[37] "ranef.term.1996..Intercept."        "ranef.term.1997..Intercept."
[39] "ranef.term.1998..Intercept."        "ranef.term.1999..Intercept."
[41] "ranef.term.2000..Intercept."        "ranef.term.2001..Intercept."
[43] "ranef.term.2002..Intercept."        "ranef.term.2003..Intercept."
[45] "ranef.term.2004..Intercept."        "ranef.term.2005..Intercept."
[47] "ranef.term.2006..Intercept."        "ranef.term.2007..Intercept."
[49] "ranef.term.2008..Intercept."        "ranef.term.2009..Intercept."
[51] "ranef.term.2010..Intercept."        "ranef.term.2011..Intercept."
[53] "ranef.term.2012..Intercept."        "ranef.term.2013..Intercept."
[55] "ranef.term.2014..Intercept."        "ranef.term.2015..Intercept."
[57] "ranef.term.2016..Intercept."        "ranef.term.2017..Intercept."
[59] "ranef.term.2018..Intercept."        "ranef.justice.92..Intercept."
[61] "ranef.justice.95..Intercept."       "ranef.justice.98..Intercept."
[63] "ranef.justice.99..Intercept."       "ranef.justice.100..Intercept."
[65] "ranef.justice.101..Intercept."      "ranef.justice.102..Intercept."
[67] "ranef.justice.103..Intercept."      "ranef.justice.104..Intercept."
[69] "ranef.justice.105..Intercept."      "ranef.justice.106..Intercept."
[71] "ranef.justice.107..Intercept."      "ranef.justice.108..Intercept."
[73] "ranef.justice.109..Intercept."      "ranef.justice.110..Intercept."
[75] "ranef.justice.111..Intercept."      "ranef.justice.112..Intercept."
[77] "ranef.justice.113..Intercept."      "ranef.justice.114..Intercept."
[79] "ranef.justice.115..Intercept."      "ranef.justice.116..Intercept."
[81] "ranef.issueArea.1..Intercept."      "ranef.issueArea.2..Intercept."
[83] "ranef.issueArea.3..Intercept."      "ranef.issueArea.4..Intercept."
[85] "ranef.issueArea.5..Intercept."      "ranef.issueArea.6..Intercept."
[87] "ranef.issueArea.7..Intercept."      "ranef.issueArea.8..Intercept."
[89] "ranef.issueArea.9..Intercept."      "ranef.issueArea.10..Intercept."
[91] "ranef.issueArea.12..Intercept."     "ranef.issueArea.13..Intercept."
> sim.coef <- as.data.frame(sim.coef)
> colnames(sim.coef)
 [1] "fixef..Intercept."                  "fixef.petUnnamedCiteLog"
 [3] "fixef.petMajCallOutLog"             "fixef.petNotMajOpinLog"
 [5] "fixef.respUnnamedCiteLog"           "fixef.respMajCallOutLog"
 [7] "fixef.respNotMajOpinLog"            "fixef.ideoAlign"
 [9] "fixef.pastExpertise"                "fixef.logPetNumCites"
[11] "fixef.logRespNumCites"              "fixef.petExperienceAdvantage"
[13] "fixef.sgParty"                      "fixef.lcDisagreement"
[15] "fixef.amiciNet"                     "fixef.helpOSG"
[17] "fixef.netStatus"                    "fixef.oaQuestDiff"
[19] "fixef.petUnnamedCiteLog.ideoAlign"  "fixef.petMajCallOutLog.ideoAlign"
[21] "fixef.petNotMajOpinLog.ideoAlign"   "fixef.respUnnamedCiteLog.ideoAlign"
[23] "fixef.respMajCallOutLog.ideoAlign"  "fixef.respNotMajOpinLog.ideoAlign"
[25] "ranef.term.1984..Intercept."        "ranef.term.1985..Intercept."
[27] "ranef.term.1986..Intercept."        "ranef.term.1987..Intercept."
[29] "ranef.term.1988..Intercept."        "ranef.term.1989..Intercept."
```

```
[31] "ranef.term.1990..Intercept."        "ranef.term.1991..Intercept."
[33] "ranef.term.1992..Intercept."        "ranef.term.1993..Intercept."
[35] "ranef.term.1994..Intercept."        "ranef.term.1995..Intercept."
[37] "ranef.term.1996..Intercept."        "ranef.term.1997..Intercept."
[39] "ranef.term.1998..Intercept."        "ranef.term.1999..Intercept."
[41] "ranef.term.2000..Intercept."        "ranef.term.2001..Intercept."
[43] "ranef.term.2002..Intercept."        "ranef.term.2003..Intercept."
[45] "ranef.term.2004..Intercept."        "ranef.term.2005..Intercept."
[47] "ranef.term.2006..Intercept."        "ranef.term.2007..Intercept."
[49] "ranef.term.2008..Intercept."        "ranef.term.2009..Intercept."
[51] "ranef.term.2010..Intercept."        "ranef.term.2011..Intercept."
[53] "ranef.term.2012..Intercept."        "ranef.term.2013..Intercept."
[55] "ranef.term.2014..Intercept."        "ranef.term.2015..Intercept."
[57] "ranef.term.2016..Intercept."        "ranef.term.2017..Intercept."
[59] "ranef.term.2018..Intercept."        "ranef.justice.92..Intercept."
[61] "ranef.justice.95..Intercept."       "ranef.justice.98..Intercept."
[63] "ranef.justice.99..Intercept."       "ranef.justice.100..Intercept."
[65] "ranef.justice.101..Intercept."      "ranef.justice.102..Intercept."
[67] "ranef.justice.103..Intercept."      "ranef.justice.104..Intercept."
[69] "ranef.justice.105..Intercept."      "ranef.justice.106..Intercept."
[71] "ranef.justice.107..Intercept."      "ranef.justice.108..Intercept."
[73] "ranef.justice.109..Intercept."      "ranef.justice.110..Intercept."
[75] "ranef.justice.111..Intercept."      "ranef.justice.112..Intercept."
[77] "ranef.justice.113..Intercept."      "ranef.justice.114..Intercept."
[79] "ranef.justice.115..Intercept."      "ranef.justice.116..Intercept."
[81] "ranef.issueArea.1..Intercept."      "ranef.issueArea.2..Intercept."
[83] "ranef.issueArea.3..Intercept."      "ranef.issueArea.4..Intercept."
[85] "ranef.issueArea.5..Intercept."      "ranef.issueArea.6..Intercept."
[87] "ranef.issueArea.7..Intercept."      "ranef.issueArea.8..Intercept."
[89] "ranef.issueArea.9..Intercept."      "ranef.issueArea.10..Intercept."
[91] "ranef.issueArea.12..Intercept."     "ranef.issueArea.13..Intercept."
>
> respPassiveSeq <- c(0, 0.693147, 1.098612, 1.386294, 1.609438, 1.791959, 1.945910, 2.079442,
2.197225, 2.302585, 2.397895, 2.484907)
>
> pMeanRespPassiveLowCong <- as.matrix(NA, nrow = length(respPassiveSeq))
> pLoRespPassiveLowCong <- as.matrix(NA, nrow = length(respPassiveSeq))
> pHiRespPassiveLowCong <- as.matrix(NA, nrow = length(respPassiveSeq))
>
> pMeanRespPassiveMedCong <- as.matrix(NA, nrow = length(respPassiveSeq))
> pLoRespPassiveMedCong <- as.matrix(NA, nrow = length(respPassiveSeq))
> pHiRespPassiveMedCong <- as.matrix(NA, nrow = length(respPassiveSeq))
>
> pMeanRespPassiveHighCong <- as.matrix(NA, nrow = length(respPassiveSeq))
> pLoRespPassiveHighCong <- as.matrix(NA, nrow = length(respPassiveSeq))
> pHiRespPassiveHighCong <- as.matrix(NA, nrow = length(respPassiveSeq))
>
> pMeanRespPassiveDiffLowHigh <- as.matrix(NA, nrow = length(respPassiveSeq))
> pLoRespPassiveDiffLowHigh <- as.matrix(NA, nrow = length(respPassiveSeq))
> pHiRespPassiveDiffLowHigh <- as.matrix(NA, nrow = length(respPassiveSeq))
>
> pMeanRespPassiveDiffLowMed <- as.matrix(NA, nrow = length(respPassiveSeq))
> pLoRespPassiveDiffLowMed <- as.matrix(NA, nrow = length(respPassiveSeq))
> pHiRespPassiveDiffLowMed <- as.matrix(NA, nrow = length(respPassiveSeq))
>
> pMeanRespPassiveDiffMedHigh <- as.matrix(NA, nrow = length(respPassiveSeq))
> pLoRespPassiveDiffMedHigh <- as.matrix(NA, nrow = length(respPassiveSeq))
> pHiRespPassiveDiffMedHigh <- as.matrix(NA, nrow = length(respPassiveSeq))
```

```
>
> for(i in 1:length(respPassiveSeq)){
+   predRespPassiveLowCong <- cbind(1,
+                           model2data$petUnnamedCiteLog,
+                           model2data$petMajCallOutLog,
+                           model2data$petNotMajOpinLog,
+                           respPassiveSeq[i],
+                           model2data$respMajCallOutLog,
+                           model2data$respNotMajOpinLog,
+                           -2.909,
+                           model2data$pastExpertise,
+                           model2data$logPetNumCites,
+                           model2data$logRespNumCites,
+                           model2data$petExperienceAdvantage,
+                           model2data$sgParty,
+                           model2data$lcDisagreement,
+                           model2data$amiciNet,
+                           model2data$helpOSG,
+                           model2data$netStatus,
+                           model2data$oaQuestDiff,
+                           model2data$petUnnamedCiteLog * -2.909,
+                           model2data$petMajCallOutLog * -2.909,
+                           model2data$petNotMajOpinLog * -2.909,
+                           respPassiveSeq[i] * -2.909,
+                           model2data$respMajCallOutLog * -2.909,
+                           model2data$respNotMajOpinLog * -2.909,
+                           issueArea,
+                           term,
+                           justice
+                           )
+   predRespPassiveLowCong <- as.matrix(predRespPassiveLowCong)
+
+   predRespPassiveMedCong <- cbind(1,
+                           model2data$petUnnamedCiteLog,
+                           model2data$petMajCallOutLog,
+                           model2data$petNotMajOpinLog,
+                           respPassiveSeq[i],
+                           model2data$respMajCallOutLog,
+                           model2data$respNotMajOpinLog,
+                           0.077,
+                           model2data$pastExpertise,
+                           model2data$logPetNumCites,
+                           model2data$logRespNumCites,

+                           model2data$petExperienceAdvantage,
+                           model2data$sgParty,
+                           model2data$lcDisagreement,
+                           model2data$amiciNet,
+                           model2data$helpOSG,
+                           model2data$netStatus,

+                           model2data$oaQuestDiff,
+                           model2data$petUnnamedCiteLog * 0.077,
+                           model2data$petMajCallOutLog * 0.077,
+                           model2data$petNotMajOpinLog * 0.077,
+                           respPassiveSeq[i] * 0.077,
+                           model2data$respMajCallOutLog * 0.077,
+                           model2data$respNotMajOpinLog * 0.077,
```

```
+                           issueArea,
+                           term,
+                           justice
+                           )
+   predRespPassiveMedCong <- as.matrix(predRespPassiveMedCong)
+
+   predRespPassiveHighCong <- cbind(1,
+                           model2data$petUnnamedCiteLog,
+                           model2data$petMajCallOutLog,
+                           model2data$petNotMajOpinLog,
+                           respPassiveSeq[i],
+                           model2data$respMajCallOutLog,
+                           model2data$respNotMajOpinLog,
+                           2.918,
+                           model2data$pastExpertise,
+                           model2data$logPetNumCites,
+                           model2data$logRespNumCites,

+                           model2data$petExperienceAdvantage,
+                           model2data$sgParty,
+                           model2data$lcDisagreement,
+                           model2data$amiciNet,
+                           model2data$helpOSG,
+                           model2data$netStatus,

+                           model2data$oaQuestDiff,
+                           model2data$petUnnamedCiteLog * 2.918,
+                           model2data$petMajCallOutLog * 2.918,
+                           model2data$petNotMajOpinLog * 2.918,
+                           respPassiveSeq[i] * 2.918,
+                           model2data$respMajCallOutLog * 2.918,
+                           model2data$respNotMajOpinLog * 2.918,
+                           issueArea,
+                           term,
+                           justice
+                           )
+   predRespPassiveHighCong <- as.matrix(predRespPassiveHighCong)
+
+   ppRespPassiveLowCong <- as.matrix(NA, row = n.draws)
+   ppRespPassiveMedCong <- as.matrix(NA, row = n.draws)
+   ppRespPassiveHighCong <- as.matrix(NA, row = n.draws)
+   ppRespPassiveDiffLowHigh <- as.matrix(NA, row = n.draws)
+   ppRespPassiveDiffLowMed <- as.matrix(NA, row = n.draws)
+   ppRespPassiveDiffMedHigh <- as.matrix(NA, row = n.draws)
+
+   for(j in 1:n.draws){
+       xbRespPassiveLowCong <- ilogit(predRespPassiveLowCong %*% t(sim.coef[j, ]))
+       ppRespPassiveLowCong[j] <- mean(xbRespPassiveLowCong)
+       xbRespPassiveMedCong <- ilogit(predRespPassiveMedCong %*% t(sim.coef[j, ]))
+       ppRespPassiveMedCong[j] <- mean(xbRespPassiveMedCong)
+       xbRespPassiveHighCong <- ilogit(predRespPassiveHighCong %*% t(sim.coef[j, ]))
+       ppRespPassiveHighCong[j] <- mean(xbRespPassiveHighCong)
+       ppRespPassiveDiffLowHigh[j] <- mean(xbRespPassiveHighCong - xbRespPassiveLowCong)
+       ppRespPassiveDiffLowMed[j] <- mean(xbRespPassiveMedCong - xbRespPassiveLowCong)
+       ppRespPassiveDiffMedHigh[j] <- mean(xbRespPassiveHighCong - xbRespPassiveMedCong)
+
+   }
+
```

```
+   pMeanRespPassiveLowCong[i] <- mean(ppRespPassiveLowCong)
+   pLoRespPassiveLowCong[i] <- quantile(ppRespPassiveLowCong, 0.025, na.rm = TRUE)
+   pHiRespPassiveLowCong[i] <- quantile(ppRespPassiveLowCong, 0.975, na.rm = TRUE)
+
+   pMeanRespPassiveMedCong[i] <- mean(ppRespPassiveMedCong)
+   pLoRespPassiveMedCong[i] <- quantile(ppRespPassiveMedCong, 0.025, na.rm = TRUE)
+   pHiRespPassiveMedCong[i] <- quantile(ppRespPassiveMedCong, 0.975, na.rm = TRUE)
+
+   pMeanRespPassiveHighCong[i] <- mean(ppRespPassiveHighCong)
+   pLoRespPassiveHighCong[i] <- quantile(ppRespPassiveHighCong, 0.025, na.rm = TRUE)
+   pHiRespPassiveHighCong[i] <- quantile(ppRespPassiveHighCong, 0.975, na.rm = TRUE)
+
+   pMeanRespPassiveDiffLowHigh[i] <- mean(ppRespPassiveDiffLowHigh)
+   pLoRespPassiveDiffLowHigh[i] <- quantile(ppRespPassiveDiffLowHigh, 0.025, na.rm = TRUE)
+   pHiRespPassiveDiffLowHigh[i] <- quantile(ppRespPassiveDiffLowHigh, 0.975, na.rm = TRUE)
+
+   pMeanRespPassiveDiffLowMed[i] <- mean(ppRespPassiveDiffLowMed)
+   pLoRespPassiveDiffLowMed[i] <- quantile(ppRespPassiveDiffLowMed, 0.025, na.rm = TRUE)
+   pHiRespPassiveDiffLowMed[i] <- quantile(ppRespPassiveDiffLowMed, 0.975, na.rm = TRUE)
+
+   pMeanRespPassiveDiffMedHigh[i] <- mean(ppRespPassiveDiffMedHigh)
+   pLoRespPassiveDiffMedHigh[i] <- quantile(ppRespPassiveDiffMedHigh, 0.025, na.rm = TRUE)
+   pHiRespPassiveDiffMedHigh[i] <- quantile(ppRespPassiveDiffMedHigh, 0.975, na.rm = TRUE)
+
+ }
>
> cbind(pLoRespPassiveDiffLowHigh, pMeanRespPassiveDiffLowHigh, pHiRespPassiveDiffLowHigh)
      pLoRespPassiveDiffLowHigh pMeanRespPassiveDiffLowHigh pHiRespPassiveDiffLowHigh
 [1,]               0.090498620                  0.11444224                0.13815530
 [2,]               0.076662033                  0.09404498                0.11104489
 [3,]               0.061956617                  0.08159033                0.10091931
 [4,]               0.048808912                  0.07255270                0.09530395
 [5,]               0.037451641                  0.06544128                0.09246395
 [6,]               0.027651743                  0.05956568                0.09025761
 [7,]               0.018914534                  0.05457270                0.08862007
 [8,]               0.011772511                  0.05021706                0.08706026
 [9,]               0.004890937                  0.04635767                0.08566857
[10,]              -0.001311043                  0.04289270                0.08440619
[11,]              -0.006664809                  0.03974888                0.08327603
[12,]              -0.011979109                  0.03687168                0.08211553
> cbind(pLoRespPassiveDiffLowMed, pMeanRespPassiveDiffLowMed, pHiRespPassiveDiffLowMed)
      pLoRespPassiveDiffLowMed pMeanRespPassiveDiffLowMed pHiRespPassiveDiffLowMed
 [1,]             0.0475230986                 0.06049172               0.07324891
 [2,]             0.0401097586                 0.04930447               0.05822981
 [3,]             0.0324026236                 0.04261037               0.05257883
 [4,]             0.0255998791                 0.03780366               0.04972105
 [5,]             0.0197347758                 0.03404651               0.04791280
 [6,]             0.0144227118                 0.03095661               0.04677264
 [7,]             0.0098813953                 0.02833979               0.04622919
 [8,]             0.0062703958                 0.02606293               0.04529239
 [9,]             0.0026434846                 0.02404957               0.04463167
[10,]            -0.0005043741                 0.02224492               0.04383329
[11,]            -0.0032534915                 0.02060968               0.04319775
[12,]            -0.0060067800                 0.01911472               0.04249557
> cbind(pLoRespPassiveDiffMedHigh, pMeanRespPassiveDiffMedHigh, pHiRespPassiveDiffMedHigh)
      pLoRespPassiveDiffMedHigh pMeanRespPassiveDiffMedHigh pHiRespPassiveDiffMedHigh
 [1,]              0.0428604147                 0.05395053               0.06469395
 [2,]              0.0366094009                 0.04474051               0.05248165
```

```
 [3,]             0.0293802613                0.03897996              0.04820500
 [4,]             0.0232117862                0.03474904              0.04588063
 [5,]             0.0178483173                0.03139478              0.04451857
 [6,]             0.0131515595                0.02860907              0.04343853
 [7,]             0.0090121519                0.02623291              0.04280131
 [8,]             0.0055021147                0.02415413              0.04202992
 [9,]             0.0022488506                0.02230809              0.04133427
[10,]            -0.0008066687                0.02064778              0.04062443
[11,]            -0.0034319618                0.01913920              0.04013582
[12,]            -0.0058943795                0.01775695              0.03961854
>
> counter <- seq(0, 11, by = 1)
>
> respCiteXcong <- data.frame(counter, respPassiveSeq, pLoRespPassiveLowCong, pMeanRespPassiveLowCong,
pHiRespPassiveLowCong, pLoRespPassiveHighCong, pMeanRespPassiveHighCong, pHiRespPassiveHighCong,
pLoRespPassiveMedCong, pMeanRespPassiveMedCong, pHiRespPassiveMedCong)
> colnames(respCiteXcong) <- c("count", "passiveCite", "lbLow", "estLow", "ubLow", "lbHigh",
"estHigh", "ubHigh", "lbMed", "estMed", "ubMed")
> respCiteXcong$pet <- 0
>
> # just for reference - this is not the table in the paper
> respPassiveCiteTable <- ggplot(respCiteXcong, aes(x = passiveCite)) +
+               geom_line(aes(y = estLow), color = "red") +
+               geom_line(aes(y = lbLow), linetype = "dashed", color = "red") +
+               geom_line(aes(y = ubLow), linetype = "dashed", color = "red") +
+               geom_line(aes(y = estHigh), color = "blue") +
+               geom_line(aes(y = lbHigh), linetype = "dashed", color = "blue") +
+               geom_line(aes(y = ubHigh), linetype = "dashed", color = "blue") +
+               geom_line(aes(y = estMed), color = "green") +
+               geom_line(aes(y = lbMed), linetype = "dashed", color = "green") +
+               geom_line(aes(y = ubMed), linetype = "dashed", color = "green") +
+               theme_light()

> respPassiveCiteTable
>
> ####################################
> ### STEP 5C: WRITE OUT FOR GRAPHS ###
> ####################################
>
> citesXcong <- rbind(petCiteXcong, respCiteXcong)
>
> write.csv(citesXcong, "~/Dropbox/VanityCitations/JOP\ Final/Dataverse/
Analysis2PassivePredProbs.csv")
>
> ##################################
> ### STEP 6: SEPARATE CITATIONS ###
> ##################################
>
> ### petNotMajOpinLog x ideoAlign
> # low = quantile(model2data$ideoAlign, 0.1) = -2.909
> # medium = quantile(model2data$ideoAlign, 0.5) = 0.077
> # high = quantile(model2data$ideoAlign, 0.9) = 2.918
> # 0 - 0
> # 1 - 0.693147
> # 2 - 1.098612
>
> ########################
> ### STEP 6A: PET SEP ###
```

```
> ########################
>
> set.seed(19870302)
> n.draws <- 1000
> sim.coef <- coef(sim(model2logCites, n.draws))
> colnames(as.data.frame(sim.coef))
 [1] "fixef..Intercept."                  "fixef.petUnnamedCiteLog"
 [3] "fixef.petMajCallOutLog"             "fixef.petNotMajOpinLog"
 [5] "fixef.respUnnamedCiteLog"           "fixef.respMajCallOutLog"
 [7] "fixef.respNotMajOpinLog"            "fixef.ideoAlign"
 [9] "fixef.pastExpertise"                "fixef.logPetNumCites"
[11] "fixef.logRespNumCites"              "fixef.petExperienceAdvantage"
[13] "fixef.sgParty"                      "fixef.lcDisagreement"
[15] "fixef.amiciNet"                     "fixef.helpOSG"
[17] "fixef.netStatus"                    "fixef.oaQuestDiff"
[19] "fixef.petUnnamedCiteLog.ideoAlign"  "fixef.petMajCallOutLog.ideoAlign"
[21] "fixef.petNotMajOpinLog.ideoAlign"   "fixef.respUnnamedCiteLog.ideoAlign"
[23] "fixef.respMajCallOutLog.ideoAlign"  "fixef.respNotMajOpinLog.ideoAlign"
[25] "ranef.term.1984..Intercept."        "ranef.term.1985..Intercept."
[27] "ranef.term.1986..Intercept."        "ranef.term.1987..Intercept."
[29] "ranef.term.1988..Intercept."        "ranef.term.1989..Intercept."
[31] "ranef.term.1990..Intercept."        "ranef.term.1991..Intercept."
[33] "ranef.term.1992..Intercept."        "ranef.term.1993..Intercept."
[35] "ranef.term.1994..Intercept."        "ranef.term.1995..Intercept."
[37] "ranef.term.1996..Intercept."        "ranef.term.1997..Intercept."
[39] "ranef.term.1998..Intercept."        "ranef.term.1999..Intercept."
[41] "ranef.term.2000..Intercept."        "ranef.term.2001..Intercept."
[43] "ranef.term.2002..Intercept."        "ranef.term.2003..Intercept."
[45] "ranef.term.2004..Intercept."        "ranef.term.2005..Intercept."
[47] "ranef.term.2006..Intercept."        "ranef.term.2007..Intercept."
[49] "ranef.term.2008..Intercept."        "ranef.term.2009..Intercept."
[51] "ranef.term.2010..Intercept."        "ranef.term.2011..Intercept."
[53] "ranef.term.2012..Intercept."        "ranef.term.2013..Intercept."
[55] "ranef.term.2014..Intercept."        "ranef.term.2015..Intercept."
[57] "ranef.term.2016..Intercept."        "ranef.term.2017..Intercept."
[59] "ranef.term.2018..Intercept."        "ranef.justice.92..Intercept."
[61] "ranef.justice.95..Intercept."       "ranef.justice.98..Intercept."
[63] "ranef.justice.99..Intercept."       "ranef.justice.100..Intercept."
[65] "ranef.justice.101..Intercept."      "ranef.justice.102..Intercept."
[67] "ranef.justice.103..Intercept."      "ranef.justice.104..Intercept."
[69] "ranef.justice.105..Intercept."      "ranef.justice.106..Intercept."
[71] "ranef.justice.107..Intercept."      "ranef.justice.108..Intercept."
[73] "ranef.justice.109..Intercept."      "ranef.justice.110..Intercept."
[75] "ranef.justice.111..Intercept."      "ranef.justice.112..Intercept."
[77] "ranef.justice.113..Intercept."      "ranef.justice.114..Intercept."
[79] "ranef.justice.115..Intercept."      "ranef.justice.116..Intercept."
[81] "ranef.issueArea.1..Intercept."      "ranef.issueArea.2..Intercept."
[83] "ranef.issueArea.3..Intercept."      "ranef.issueArea.4..Intercept."
[85] "ranef.issueArea.5..Intercept."      "ranef.issueArea.6..Intercept."
[87] "ranef.issueArea.7..Intercept."      "ranef.issueArea.8..Intercept."
[89] "ranef.issueArea.9..Intercept."      "ranef.issueArea.10..Intercept."
[91] "ranef.issueArea.12..Intercept."     "ranef.issueArea.13..Intercept."
> sim.coef <- as.data.frame(sim.coef)
> colnames(sim.coef)
 [1] "fixef..Intercept."                  "fixef.petUnnamedCiteLog"
 [3] "fixef.petMajCallOutLog"             "fixef.petNotMajOpinLog"
 [5] "fixef.respUnnamedCiteLog"           "fixef.respMajCallOutLog"
 [7] "fixef.respNotMajOpinLog"            "fixef.ideoAlign"
```

```
 [9] "fixef.pastExpertise"                "fixef.logPetNumCites"
[11] "fixef.logRespNumCites"              "fixef.petExperienceAdvantage"
[13] "fixef.sgParty"                      "fixef.lcDisagreement"
[15] "fixef.amiciNet"                     "fixef.helpOSG"
[17] "fixef.netStatus"                    "fixef.oaQuestDiff"
[19] "fixef.petUnnamedCiteLog.ideoAlign"  "fixef.petMajCallOutLog.ideoAlign"
[21] "fixef.petNotMajOpinLog.ideoAlign"   "fixef.respUnnamedCiteLog.ideoAlign"
[23] "fixef.respMajCallOutLog.ideoAlign"  "fixef.respNotMajOpinLog.ideoAlign"
[25] "ranef.term.1984..Intercept."        "ranef.term.1985..Intercept."
[27] "ranef.term.1986..Intercept."        "ranef.term.1987..Intercept."
[29] "ranef.term.1988..Intercept."        "ranef.term.1989..Intercept."
[31] "ranef.term.1990..Intercept."        "ranef.term.1991..Intercept."
[33] "ranef.term.1992..Intercept."        "ranef.term.1993..Intercept."
[35] "ranef.term.1994..Intercept."        "ranef.term.1995..Intercept."
[37] "ranef.term.1996..Intercept."        "ranef.term.1997..Intercept."
[39] "ranef.term.1998..Intercept."        "ranef.term.1999..Intercept."
[41] "ranef.term.2000..Intercept."        "ranef.term.2001..Intercept."
[43] "ranef.term.2002..Intercept."        "ranef.term.2003..Intercept."
[45] "ranef.term.2004..Intercept."        "ranef.term.2005..Intercept."
[47] "ranef.term.2006..Intercept."        "ranef.term.2007..Intercept."
[49] "ranef.term.2008..Intercept."        "ranef.term.2009..Intercept."
[51] "ranef.term.2010..Intercept."        "ranef.term.2011..Intercept."
[53] "ranef.term.2012..Intercept."        "ranef.term.2013..Intercept."
[55] "ranef.term.2014..Intercept."        "ranef.term.2015..Intercept."
[57] "ranef.term.2016..Intercept."        "ranef.term.2017..Intercept."
[59] "ranef.term.2018..Intercept."        "ranef.justice.92..Intercept."
[61] "ranef.justice.95..Intercept."       "ranef.justice.98..Intercept."
[63] "ranef.justice.99..Intercept."       "ranef.justice.100..Intercept."
[65] "ranef.justice.101..Intercept."      "ranef.justice.102..Intercept."
[67] "ranef.justice.103..Intercept."      "ranef.justice.104..Intercept."
[69] "ranef.justice.105..Intercept."      "ranef.justice.106..Intercept."
[71] "ranef.justice.107..Intercept."      "ranef.justice.108..Intercept."
[73] "ranef.justice.109..Intercept."      "ranef.justice.110..Intercept."
[75] "ranef.justice.111..Intercept."      "ranef.justice.112..Intercept."
[77] "ranef.justice.113..Intercept."      "ranef.justice.114..Intercept."
[79] "ranef.justice.115..Intercept."      "ranef.justice.116..Intercept."
[81] "ranef.issueArea.1..Intercept."      "ranef.issueArea.2..Intercept."
[83] "ranef.issueArea.3..Intercept."      "ranef.issueArea.4..Intercept."
[85] "ranef.issueArea.5..Intercept."      "ranef.issueArea.6..Intercept."
[87] "ranef.issueArea.7..Intercept."      "ranef.issueArea.8..Intercept."
[89] "ranef.issueArea.9..Intercept."      "ranef.issueArea.10..Intercept."
[91] "ranef.issueArea.12..Intercept."     "ranef.issueArea.13..Intercept."
>
> petSeparateSeq <- c(0, 0.693147, 1.098612)
>
> pMeanPetSeparateLowCong <- as.matrix(NA, nrow = length(petSeparateSeq))
> pLoPetSeparateLowCong <- as.matrix(NA, nrow = length(petSeparateSeq))
> pHiPetSeparateLowCong <- as.matrix(NA, nrow = length(petSeparateSeq))
>
> pMeanPetSeparateMedCong <- as.matrix(NA, nrow = length(petSeparateSeq))
> pLoPetSeparateMedCong <- as.matrix(NA, nrow = length(petSeparateSeq))
> pHiPetSeparateMedCong <- as.matrix(NA, nrow = length(petSeparateSeq))
>
> pMeanPetSeparateHighCong <- as.matrix(NA, nrow = length(petSeparateSeq))
> pLoPetSeparateHighCong <- as.matrix(NA, nrow = length(petSeparateSeq))
> pHiPetSeparateHighCong <- as.matrix(NA, nrow = length(petSeparateSeq))
>
> pMeanPetSeparateDiffLowHigh <- as.matrix(NA, nrow = length(petSeparateSeq))
```

```
> pLoPetSeparateDiffLowHigh <- as.matrix(NA, nrow = length(petSeparateSeq))
> pHiPetSeparateDiffLowHigh <- as.matrix(NA, nrow = length(petSeparateSeq))
>
> pMeanPetSeparateDiffLowMed <- as.matrix(NA, nrow = length(petSeparateSeq))
> pLoPetSeparateDiffLowMed <- as.matrix(NA, nrow = length(petSeparateSeq))
> pHiPetSeparateDiffLowMed <- as.matrix(NA, nrow = length(petSeparateSeq))
>
> pMeanPetSeparateDiffMedHigh <- as.matrix(NA, nrow = length(petSeparateSeq))
> pLoPetSeparateDiffMedHigh <- as.matrix(NA, nrow = length(petSeparateSeq))
> pHiPetSeparateDiffMedHigh <- as.matrix(NA, nrow = length(petSeparateSeq))
>
> for(i in 1:length(petSeparateSeq)){
+   predPetSeparateLowCong <- cbind(1,
+                           model2data$petUnnamedCiteLog,
+                           model2data$petMajCallOutLog,
+                           petSeparateSeq[i],
+                           model2data$respUnnamedCiteLog,
+                           model2data$respMajCallOutLog,
+                           model2data$respNotMajOpinLog,
+                           -2.909,
+                           model2data$pastExpertise,
+                           model2data$logPetNumCites,
+                           model2data$logRespNumCites,

+                           model2data$petExperienceAdvantage,
+                           model2data$sgParty,
+                           model2data$lcDisagreement,
+                           model2data$amiciNet,
+                           model2data$helpOSG,
+                           model2data$netStatus,

+                           model2data$oaQuestDiff,
+                           model2data$petUnnamedCiteLog * -2.909,
+                           model2data$petMajCallOutLog * -2.909,
+                           petSeparateSeq[i] * -2.909,
+                           model2data$respUnnamedCiteLog * -2.909,
+                           model2data$respMajCallOutLog * -2.909,
+                           model2data$respNotMajOpinLog * -2.909,
+                           issueArea,
+                           term,
+                           justice
+                           )
+   predPetSeparateLowCong <- as.matrix(predPetSeparateLowCong)
+
+   predPetSeparateMedCong <- cbind(1,
+                           model2data$petUnnamedCiteLog,
+                           model2data$petMajCallOutLog,
+                           petSeparateSeq[i],
+                           model2data$respUnnamedCiteLog,
+                           model2data$respMajCallOutLog,
+                           model2data$respNotMajOpinLog,
+                           0.077,
+                           model2data$pastExpertise,
+                           model2data$logPetNumCites,
+                           model2data$logRespNumCites,

+                           model2data$petExperienceAdvantage,
+                           model2data$sgParty,
```

```
+                           model2data$lcDisagreement,
+                           model2data$amiciNet,
+                           model2data$helpOSG,
+                           model2data$netStatus,

+                           model2data$oaQuestDiff,
+                           model2data$petUnnamedCiteLog * 0.077,
+                           model2data$petMajCallOutLog * 0.077,
+                           petSeparateSeq[i] * 0.077,
+                           model2data$respUnnamedCiteLog * 0.077,
+                           model2data$respMajCallOutLog * 0.077,
+                           model2data$respNotMajOpinLog * 0.077,
+                           issueArea,
+                           term,
+                           justice
+                           )
+   predPetSeparateMedCong <- as.matrix(predPetSeparateMedCong)
+
+   predPetSeparateHighCong <- cbind(1,
+                           model2data$petUnnamedCiteLog,
+                           model2data$petMajCallOutLog,
+                           petSeparateSeq[i],
+                           model2data$respUnnamedCiteLog,
+                           model2data$respMajCallOutLog,
+                           model2data$respNotMajOpinLog,
+                           2.918,
+                           model2data$pastExpertise,
+                           model2data$logPetNumCites,
+                           model2data$logRespNumCites,

+                           model2data$petExperienceAdvantage,
+                           model2data$sgParty,
+                           model2data$lcDisagreement,
+                           model2data$amiciNet,
+                           model2data$helpOSG,
+                           model2data$netStatus,

+                           model2data$oaQuestDiff,
+                           model2data$petUnnamedCiteLog * 2.918,
+                           model2data$petMajCallOutLog * 2.918,
+                           petSeparateSeq[i] * 2.918,
+                           model2data$respUnnamedCiteLog * 2.918,
+                           model2data$respMajCallOutLog * 2.918,
+                           model2data$respNotMajOpinLog * 2.918,
+                           issueArea,
+                           term,
+                           justice
+                           )
+   predPetSeparateHighCong <- as.matrix(predPetSeparateHighCong)
+
+   ppPetSeparateLowCong <- as.matrix(NA, row = n.draws)
+   ppPetSeparateMedCong <- as.matrix(NA, row = n.draws)
+   ppPetSeparateHighCong <- as.matrix(NA, row = n.draws)
+   ppPetSeparateDiffLowHigh <- as.matrix(NA, row = n.draws)
+   ppPetSeparateDiffLowMed <- as.matrix(NA, row = n.draws)
+   ppPetSeparateDiffMedHigh <- as.matrix(NA, row = n.draws)
+
+   for(j in 1:n.draws){
```

```
+       xbPetSeparateLowCong <- ilogit(predPetSeparateLowCong %*% t(sim.coef[j, ]))
+       ppPetSeparateLowCong[j] <- mean(xbPetSeparateLowCong)
+       xbPetSeparateMedCong <- ilogit(predPetSeparateMedCong %*% t(sim.coef[j, ]))
+       ppPetSeparateMedCong[j] <- mean(xbPetSeparateMedCong)
+       xbPetSeparateHighCong <- ilogit(predPetSeparateHighCong %*% t(sim.coef[j, ]))
+       ppPetSeparateHighCong[j] <- mean(xbPetSeparateHighCong)
+       ppPetSeparateDiffLowHigh[j] <- mean(xbPetSeparateHighCong - xbPetSeparateLowCong)
+       ppPetSeparateDiffLowMed[j] <- mean(xbPetSeparateMedCong - xbPetSeparateLowCong)
+       ppPetSeparateDiffMedHigh[j] <- mean(xbPetSeparateHighCong - xbPetSeparateMedCong)
+
+   }
+
+   pMeanPetSeparateLowCong[i] <- mean(ppPetSeparateLowCong)
+   pLoPetSeparateLowCong[i] <- quantile(ppPetSeparateLowCong, 0.025, na.rm = TRUE)
+   pHiPetSeparateLowCong[i] <- quantile(ppPetSeparateLowCong, 0.975, na.rm = TRUE)
+
+   pMeanPetSeparateMedCong[i] <- mean(ppPetSeparateMedCong)
+   pLoPetSeparateMedCong[i] <- quantile(ppPetSeparateMedCong, 0.025, na.rm = TRUE)
+   pHiPetSeparateMedCong[i] <- quantile(ppPetSeparateMedCong, 0.975, na.rm = TRUE)
+
+   pMeanPetSeparateHighCong[i] <- mean(ppPetSeparateHighCong)
+   pLoPetSeparateHighCong[i] <- quantile(ppPetSeparateHighCong, 0.025, na.rm = TRUE)
+   pHiPetSeparateHighCong[i] <- quantile(ppPetSeparateHighCong, 0.975, na.rm = TRUE)
+
+   pMeanPetSeparateDiffLowHigh[i] <- mean(ppPetSeparateDiffLowHigh)
+   pLoPetSeparateDiffLowHigh[i] <- quantile(ppPetSeparateDiffLowHigh, 0.025, na.rm = TRUE)
+   pHiPetSeparateDiffLowHigh[i] <- quantile(ppPetSeparateDiffLowHigh, 0.975, na.rm = TRUE)
+
+   pMeanPetSeparateDiffLowMed[i] <- mean(ppPetSeparateDiffLowMed)
+   pLoPetSeparateDiffLowMed[i] <- quantile(ppPetSeparateDiffLowMed, 0.025, na.rm = TRUE)
+   pHiPetSeparateDiffLowMed[i] <- quantile(ppPetSeparateDiffLowMed, 0.975, na.rm = TRUE)
+
+   pMeanPetSeparateDiffMedHigh[i] <- mean(ppPetSeparateDiffMedHigh)
+   pLoPetSeparateDiffMedHigh[i] <- quantile(ppPetSeparateDiffMedHigh, 0.025, na.rm = TRUE)
+   pHiPetSeparateDiffMedHigh[i] <- quantile(ppPetSeparateDiffMedHigh, 0.975, na.rm = TRUE)
+
+ }
>
> cbind(pLoPetSeparateDiffLowHigh, pMeanPetSeparateDiffLowHigh, pHiPetSeparateDiffLowHigh)
     pLoPetSeparateDiffLowHigh pMeanPetSeparateDiffLowHigh pHiPetSeparateDiffLowHigh
[1,]                0.07853464                  0.09614025                 0.1141007
[2,]                0.04500478                  0.07939094                 0.1112353
[3,]                0.02006424                  0.06965709                 0.1188093
> cbind(pLoPetSeparateDiffLowMed, pMeanPetSeparateDiffLowMed, pHiPetSeparateDiffLowMed)
     pLoPetSeparateDiffLowMed pMeanPetSeparateDiffLowMed pHiPetSeparateDiffLowMed
[1,]               0.04088778                 0.05024431               0.05985377
[2,]               0.02350558                 0.04162337               0.05832539
[3,]               0.01046684                 0.03661383               0.06310090
> cbind(pLoPetSeparateDiffMedHigh, pMeanPetSeparateDiffMedHigh, pHiPetSeparateDiffLowHigh)
     pLoPetSeparateDiffMedHigh pMeanPetSeparateDiffMedHigh pHiPetSeparateDiffLowHigh
[1,]               0.037521560                  0.04589594                 0.1141007
[2,]               0.021508457                  0.03776756                 0.1112353
[3,]               0.009556142                  0.03304326                 0.1188093
>
> count <- c(0, 1, 2)
>
> petCiteSeparateXcong <- data.frame(count, petSeparateSeq, pLoPetSeparateLowCong,
pMeanPetSeparateLowCong, pHiPetSeparateLowCong, pLoPetSeparateHighCong, pMeanPetSeparateHighCong,
```

```
pHiPetSeparateHighCong, pLoPetSeparateMedCong, pMeanPetSeparateMedCong, pHiPetSeparateMedCong)
> colnames(petCiteSeparateXcong) <- c("count", "separateCite", "lbLow", "estLow", "ubLow", "lbHigh",
"estHigh", "ubHigh", "lbMed", "estMed", "ubMed")
> petCiteSeparateXcong$pet <- 1
>
> petSeparateCiteTable <- ggplot(petCiteSeparateXcong, aes(x = separateCite)) +
+               geom_line(aes(y = estLow), color = "red") +
+               geom_line(aes(y = lbLow), linetype = "dashed", color = "red") +
+               geom_line(aes(y = ubLow), linetype = "dashed", color = "red") +
+               geom_line(aes(y = estHigh), color = "blue") +
+               geom_line(aes(y = lbHigh), linetype = "dashed", color = "blue") +
+               geom_line(aes(y = ubHigh), linetype = "dashed", color = "blue") +
+               geom_line(aes(y = estMed), color = "green") +
+               geom_line(aes(y = lbMed), linetype = "dashed", color = "green") +
+               geom_line(aes(y = ubMed), linetype = "dashed", color = "green") +
+               theme_light()

> petSeparateCiteTable
>
> ##########################
> ### STEP 6A: RESP SEP ###
> ##########################
>
> set.seed(19870302)
> n.draws <- 1000
> sim.coef <- coef(sim(model2logCites, n.draws))
> colnames(as.data.frame(sim.coef))
 [1] "fixef..Intercept."                  "fixef.petUnnamedCiteLog"
 [3] "fixef.petMajCallOutLog"             "fixef.petNotMajOpinLog"
 [5] "fixef.respUnnamedCiteLog"           "fixef.respMajCallOutLog"
 [7] "fixef.respNotMajOpinLog"            "fixef.ideoAlign"
 [9] "fixef.pastExpertise"                "fixef.logPetNumCites"
[11] "fixef.logRespNumCites"              "fixef.petExperienceAdvantage"
[13] "fixef.sgParty"                      "fixef.lcDisagreement"
[15] "fixef.amiciNet"                     "fixef.helpOSG"
[17] "fixef.netStatus"                    "fixef.oaQuestDiff"
[19] "fixef.petUnnamedCiteLog.ideoAlign"  "fixef.petMajCallOutLog.ideoAlign"
[21] "fixef.petNotMajOpinLog.ideoAlign"   "fixef.respUnnamedCiteLog.ideoAlign"
[23] "fixef.respMajCallOutLog.ideoAlign"  "fixef.respNotMajOpinLog.ideoAlign"
[25] "ranef.term.1984..Intercept."        "ranef.term.1985..Intercept."
[27] "ranef.term.1986..Intercept."        "ranef.term.1987..Intercept."
[29] "ranef.term.1988..Intercept."        "ranef.term.1989..Intercept."
[31] "ranef.term.1990..Intercept."        "ranef.term.1991..Intercept."
[33] "ranef.term.1992..Intercept."        "ranef.term.1993..Intercept."
[35] "ranef.term.1994..Intercept."        "ranef.term.1995..Intercept."
[37] "ranef.term.1996..Intercept."        "ranef.term.1997..Intercept."
[39] "ranef.term.1998..Intercept."        "ranef.term.1999..Intercept."
[41] "ranef.term.2000..Intercept."        "ranef.term.2001..Intercept."
[43] "ranef.term.2002..Intercept."        "ranef.term.2003..Intercept."
[45] "ranef.term.2004..Intercept."        "ranef.term.2005..Intercept."
[47] "ranef.term.2006..Intercept."        "ranef.term.2007..Intercept."
[49] "ranef.term.2008..Intercept."        "ranef.term.2009..Intercept."
[51] "ranef.term.2010..Intercept."        "ranef.term.2011..Intercept."
[53] "ranef.term.2012..Intercept."        "ranef.term.2013..Intercept."
[55] "ranef.term.2014..Intercept."        "ranef.term.2015..Intercept."
[57] "ranef.term.2016..Intercept."        "ranef.term.2017..Intercept."
[59] "ranef.term.2018..Intercept."        "ranef.justice.92..Intercept."
[61] "ranef.justice.95..Intercept."       "ranef.justice.98..Intercept."
```

```
[63] "ranef.justice.99..Intercept."       "ranef.justice.100..Intercept."
[65] "ranef.justice.101..Intercept."      "ranef.justice.102..Intercept."
[67] "ranef.justice.103..Intercept."      "ranef.justice.104..Intercept."
[69] "ranef.justice.105..Intercept."      "ranef.justice.106..Intercept."
[71] "ranef.justice.107..Intercept."      "ranef.justice.108..Intercept."
[73] "ranef.justice.109..Intercept."      "ranef.justice.110..Intercept."
[75] "ranef.justice.111..Intercept."      "ranef.justice.112..Intercept."
[77] "ranef.justice.113..Intercept."      "ranef.justice.114..Intercept."
[79] "ranef.justice.115..Intercept."      "ranef.justice.116..Intercept."
[81] "ranef.issueArea.1..Intercept."      "ranef.issueArea.2..Intercept."
[83] "ranef.issueArea.3..Intercept."      "ranef.issueArea.4..Intercept."
[85] "ranef.issueArea.5..Intercept."      "ranef.issueArea.6..Intercept."
[87] "ranef.issueArea.7..Intercept."      "ranef.issueArea.8..Intercept."
[89] "ranef.issueArea.9..Intercept."      "ranef.issueArea.10..Intercept."
[91] "ranef.issueArea.12..Intercept."     "ranef.issueArea.13..Intercept."
> sim.coef <- as.data.frame(sim.coef)
> colnames(sim.coef)
 [1] "fixef..Intercept."                  "fixef.petUnnamedCiteLog"
 [3] "fixef.petMajCallOutLog"             "fixef.petNotMajOpinLog"
 [5] "fixef.respUnnamedCiteLog"           "fixef.respMajCallOutLog"
 [7] "fixef.respNotMajOpinLog"            "fixef.ideoAlign"
 [9] "fixef.pastExpertise"                "fixef.logPetNumCites"
[11] "fixef.logRespNumCites"              "fixef.petExperienceAdvantage"
[13] "fixef.sgParty"                      "fixef.lcDisagreement"
[15] "fixef.amiciNet"                     "fixef.helpOSG"
[17] "fixef.netStatus"                    "fixef.oaQuestDiff"
[19] "fixef.petUnnamedCiteLog.ideoAlign"  "fixef.petMajCallOutLog.ideoAlign"
[21] "fixef.petNotMajOpinLog.ideoAlign"   "fixef.respUnnamedCiteLog.ideoAlign"
[23] "fixef.respMajCallOutLog.ideoAlign"  "fixef.respNotMajOpinLog.ideoAlign"
[25] "ranef.term.1984..Intercept."        "ranef.term.1985..Intercept."
[27] "ranef.term.1986..Intercept."        "ranef.term.1987..Intercept."
[29] "ranef.term.1988..Intercept."        "ranef.term.1989..Intercept."
[31] "ranef.term.1990..Intercept."        "ranef.term.1991..Intercept."
[33] "ranef.term.1992..Intercept."        "ranef.term.1993..Intercept."
[35] "ranef.term.1994..Intercept."        "ranef.term.1995..Intercept."
[37] "ranef.term.1996..Intercept."        "ranef.term.1997..Intercept."
[39] "ranef.term.1998..Intercept."        "ranef.term.1999..Intercept."
[41] "ranef.term.2000..Intercept."        "ranef.term.2001..Intercept."
[43] "ranef.term.2002..Intercept."        "ranef.term.2003..Intercept."
[45] "ranef.term.2004..Intercept."        "ranef.term.2005..Intercept."
[47] "ranef.term.2006..Intercept."        "ranef.term.2007..Intercept."
[49] "ranef.term.2008..Intercept."        "ranef.term.2009..Intercept."
[51] "ranef.term.2010..Intercept."        "ranef.term.2011..Intercept."
[53] "ranef.term.2012..Intercept."        "ranef.term.2013..Intercept."
[55] "ranef.term.2014..Intercept."        "ranef.term.2015..Intercept."
[57] "ranef.term.2016..Intercept."        "ranef.term.2017..Intercept."
[59] "ranef.term.2018..Intercept."        "ranef.justice.92..Intercept."
[61] "ranef.justice.95..Intercept."       "ranef.justice.98..Intercept."
[63] "ranef.justice.99..Intercept."       "ranef.justice.100..Intercept."
[65] "ranef.justice.101..Intercept."      "ranef.justice.102..Intercept."
[67] "ranef.justice.103..Intercept."      "ranef.justice.104..Intercept."
[69] "ranef.justice.105..Intercept."      "ranef.justice.106..Intercept."
[71] "ranef.justice.107..Intercept."      "ranef.justice.108..Intercept."
[73] "ranef.justice.109..Intercept."      "ranef.justice.110..Intercept."
[75] "ranef.justice.111..Intercept."      "ranef.justice.112..Intercept."
[77] "ranef.justice.113..Intercept."      "ranef.justice.114..Intercept."
[79] "ranef.justice.115..Intercept."      "ranef.justice.116..Intercept."
[81] "ranef.issueArea.1..Intercept."      "ranef.issueArea.2..Intercept."
```

```
[83] "ranef.issueArea.3..Intercept."      "ranef.issueArea.4..Intercept."
[85] "ranef.issueArea.5..Intercept."      "ranef.issueArea.6..Intercept."
[87] "ranef.issueArea.7..Intercept."      "ranef.issueArea.8..Intercept."
[89] "ranef.issueArea.9..Intercept."      "ranef.issueArea.10..Intercept."
[91] "ranef.issueArea.12..Intercept."     "ranef.issueArea.13..Intercept."
>
> respSeparateSeq <- c(0, 0.693147, 1.098612)
>
> pMeanRespSeparateLowCong <- as.matrix(NA, nrow = length(respSeparateSeq))
> pLoRespSeparateLowCong <- as.matrix(NA, nrow = length(respSeparateSeq))
> pHiRespSeparateLowCong <- as.matrix(NA, nrow = length(respSeparateSeq))
>
> pMeanRespSeparateMedCong <- as.matrix(NA, nrow = length(respSeparateSeq))
> pLoRespSeparateMedCong <- as.matrix(NA, nrow = length(respSeparateSeq))
> pHiRespSeparateMedCong <- as.matrix(NA, nrow = length(respSeparateSeq))
>
> pMeanRespSeparateHighCong <- as.matrix(NA, nrow = length(respSeparateSeq))
> pLoRespSeparateHighCong <- as.matrix(NA, nrow = length(respSeparateSeq))
> pHiRespSeparateHighCong <- as.matrix(NA, nrow = length(respSeparateSeq))
>
> pMeanRespSeparateDiffLowHigh <- as.matrix(NA, nrow = length(respSeparateSeq))
> pLoRespSeparateDiffLowHigh <- as.matrix(NA, nrow = length(respSeparateSeq))
> pHiRespSeparateDiffLowHigh <- as.matrix(NA, nrow = length(respSeparateSeq))
>
> pMeanRespSeparateDiffLowMed <- as.matrix(NA, nrow = length(respSeparateSeq))
> pLoRespSeparateDiffLowMed <- as.matrix(NA, nrow = length(respSeparateSeq))
> pHiRespSeparateDiffLowMed <- as.matrix(NA, nrow = length(respSeparateSeq))
>
> pMeanRespSeparateDiffMedHigh <- as.matrix(NA, nrow = length(respSeparateSeq))
> pLoRespSeparateDiffMedHigh <- as.matrix(NA, nrow = length(respSeparateSeq))
> pHiRespSeparateDiffMedHigh <- as.matrix(NA, nrow = length(respSeparateSeq))
>
> for(i in 1:length(respSeparateSeq)){
+   predRespSeparateLowCong <- cbind(1,
+                            model2data$petUnnamedCiteLog,
+                            model2data$petMajCallOutLog,
+                            model2data$petNotMajOpinLog,
+                            model2data$respUnnamedCiteLog,
+                            model2data$respMajCallOutLog,
+                            respSeparateSeq[i],
+                            -2.909,
+                            model2data$pastExpertise,
+                            model2data$logPetNumCites,
+                            model2data$logRespNumCites,

+                            model2data$petExperienceAdvantage,
+                            model2data$sgParty,
+                            model2data$lcDisagreement,
+                            model2data$amiciNet,
+                            model2data$helpOSG,
+                            model2data$netStatus,

+                            model2data$oaQuestDiff,
+                            model2data$petUnnamedCiteLog * -2.909,
+                            model2data$petMajCallOutLog * -2.909,
+                            model2data$petNotMajOpinLog * -2.909,
+                            model2data$respUnnamedCiteLog * -2.909,
+                            model2data$respMajCallOutLog * -2.909,
```

```
+                           respSeparateSeq[i] * -2.909,
+                           issueArea,
+                           term,
+                           justice
+                           )
+   predRespSeparateLowCong <- as.matrix(predRespSeparateLowCong)
+
+   predRespSeparateMedCong <- cbind(1,
+                           model2data$petUnnamedCiteLog,
+                           model2data$petMajCallOutLog,
+                           model2data$petNotMajOpinLog,
+                           model2data$respUnnamedCiteLog,
+                           model2data$respMajCallOutLog,
+                           respSeparateSeq[i],
+                           0.077,
+                           model2data$pastExpertise,
+                           model2data$logPetNumCites,
+                           model2data$logRespNumCites,

+                           model2data$petExperienceAdvantage,
+                           model2data$sgParty,
+                           model2data$lcDisagreement,
+                           model2data$amiciNet,
+                           model2data$helpOSG,
+                           model2data$netStatus,

+                           model2data$oaQuestDiff,
+                           model2data$petUnnamedCiteLog * 0.077,
+                           model2data$petMajCallOutLog * 0.077,
+                           model2data$petNotMajOpinLog * 0.077,
+                           model2data$respUnnamedCiteLog * 0.077,
+                           model2data$respMajCallOutLog * 0.077,
+                           respSeparateSeq[i] * 0.077,
+                           issueArea,
+                           term,
+                           justice
+                           )
+   predRespSeparateMedCong <- as.matrix(predRespSeparateMedCong)
+
+   predRespSeparateHighCong <- cbind(1,
+                           model2data$petUnnamedCiteLog,
+                           model2data$petMajCallOutLog,
+                           model2data$petNotMajOpinLog,
+                           model2data$respUnnamedCiteLog,
+                           model2data$respMajCallOutLog,
+                           respSeparateSeq[i],
+                           2.918,
+                           model2data$pastExpertise,
+                           model2data$logPetNumCites,
+                           model2data$logRespNumCites,

+                           model2data$petExperienceAdvantage,
+                           model2data$sgParty,
+                           model2data$lcDisagreement,
+                           model2data$amiciNet,
+                           model2data$helpOSG,
+                           model2data$netStatus,
```

```
+                           model2data$oaQuestDiff,
+                           model2data$petUnnamedCiteLog * 2.918,
+                           model2data$petMajCallOutLog * 2.918,
+                           model2data$petNotMajOpinLog * 2.918,
+                           model2data$respUnnamedCiteLog * 2.918,
+                           model2data$respMajCallOutLog * 2.918,
+                           respSeparateSeq[i] * 2.918,
+                           issueArea,
+                           term,
+                           justice
+                           )
+   predRespSeparateHighCong <- as.matrix(predRespSeparateHighCong)
+
+   ppRespSeparateLowCong <- as.matrix(NA, row = n.draws)
+   ppRespSeparateMedCong <- as.matrix(NA, row = n.draws)
+   ppRespSeparateHighCong <- as.matrix(NA, row = n.draws)
+   ppRespSeparateDiffLowHigh <- as.matrix(NA, row = n.draws)
+   ppRespSeparateDiffLowMed <- as.matrix(NA, row = n.draws)
+   ppRespSeparateDiffMedHigh <- as.matrix(NA, row = n.draws)
+
+   for(j in 1:n.draws){
+       xbRespSeparateLowCong <- ilogit(predRespSeparateLowCong %*% t(sim.coef[j, ]))
+       ppRespSeparateLowCong[j] <- mean(xbRespSeparateLowCong)
+       xbRespSeparateMedCong <- ilogit(predRespSeparateMedCong %*% t(sim.coef[j, ]))
+       ppRespSeparateMedCong[j] <- mean(xbRespSeparateMedCong)
+       xbRespSeparateHighCong <- ilogit(predRespSeparateHighCong %*% t(sim.coef[j, ]))
+       ppRespSeparateHighCong[j] <- mean(xbRespSeparateHighCong)
+       ppRespSeparateDiffLowHigh[j] <- mean(xbRespSeparateHighCong - xbRespSeparateLowCong)
+       ppRespSeparateDiffLowMed[j] <- mean(xbRespSeparateMedCong - xbRespSeparateLowCong)
+       ppRespSeparateDiffMedHigh[j] <- mean(xbRespSeparateHighCong - xbRespSeparateMedCong)
+
+   }
+
+   pMeanRespSeparateLowCong[i] <- mean(ppRespSeparateLowCong)
+   pLoRespSeparateLowCong[i] <- quantile(ppRespSeparateLowCong, 0.025, na.rm = TRUE)
+   pHiRespSeparateLowCong[i] <- quantile(ppRespSeparateLowCong, 0.975, na.rm = TRUE)
+
+   pMeanRespSeparateMedCong[i] <- mean(ppRespSeparateMedCong)
+   pLoRespSeparateMedCong[i] <- quantile(ppRespSeparateMedCong, 0.025, na.rm = TRUE)
+   pHiRespSeparateMedCong[i] <- quantile(ppRespSeparateMedCong, 0.975, na.rm = TRUE)
+
+   pMeanRespSeparateHighCong[i] <- mean(ppRespSeparateHighCong)
+   pLoRespSeparateHighCong[i] <- quantile(ppRespSeparateHighCong, 0.025, na.rm = TRUE)
+   pHiRespSeparateHighCong[i] <- quantile(ppRespSeparateHighCong, 0.975, na.rm = TRUE)
+
+   pMeanRespSeparateDiffLowHigh[i] <- mean(ppRespSeparateDiffLowHigh)
+   pLoRespSeparateDiffLowHigh[i] <- quantile(ppRespSeparateDiffLowHigh, 0.025, na.rm = TRUE)
+   pHiRespSeparateDiffLowHigh[i] <- quantile(ppRespSeparateDiffLowHigh, 0.975, na.rm = TRUE)
+
+   pMeanRespSeparateDiffLowMed[i] <- mean(ppRespSeparateDiffLowMed)
+   pLoRespSeparateDiffLowMed[i] <- quantile(ppRespSeparateDiffLowMed, 0.025, na.rm = TRUE)
+   pHiRespSeparateDiffLowMed[i] <- quantile(ppRespSeparateDiffLowMed, 0.975, na.rm = TRUE)
+
+   pMeanRespSeparateDiffMedHigh[i] <- mean(ppRespSeparateDiffMedHigh)
+   pLoRespSeparateDiffMedHigh[i] <- quantile(ppRespSeparateDiffMedHigh, 0.025, na.rm = TRUE)
+   pHiRespSeparateDiffMedHigh[i] <- quantile(ppRespSeparateDiffMedHigh, 0.975, na.rm = TRUE)
+
+ }
```

```
>
> cbind(pLoRespSeparateDiffLowHigh, pMeanRespSeparateDiffLowHigh, pHiRespSeparateDiffLowHigh)
     pLoRespSeparateDiffLowHigh pMeanRespSeparateDiffLowHigh pHiRespSeparateDiffLowHigh
[1,]                 0.07341705                  0.09109577                 0.1092745
[2,]                 0.06811719                  0.10288311                 0.1340541
[3,]                 0.05473419                  0.10974239                 0.1591437
> cbind(pLoRespSeparateDiffLowMed, pMeanRespSeparateDiffLowMed, pHiRespSeparateDiffLowMed)
     pLoRespSeparateDiffLowMed pMeanRespSeparateDiffLowMed pHiRespSeparateDiffLowMed
[1,]                0.03836426                 0.04763338                0.05719760
[2,]                0.03558595                 0.05383735                0.07026988
[3,]                0.02852050                 0.05746795                0.08349231
> cbind(pLoRespSeparateDiffMedHigh, pMeanRespSeparateDiffMedHigh, pHiRespSeparateDiffLowHigh)
     pLoRespSeparateDiffMedHigh pMeanRespSeparateDiffMedHigh pHiRespSeparateDiffLowHigh
[1,]                 0.03506557                  0.04346238                 0.1092745
[2,]                 0.03271251                  0.04904576                 0.1340541
[3,]                 0.02621534                  0.05227444                 0.1591437
>
> count <- c(0, 1, 2)
>
> respCiteSeparateXcong <- data.frame(count, respSeparateSeq, pLoRespSeparateLowCong,
pMeanRespSeparateLowCong, pHiRespSeparateLowCong, pLoRespSeparateHighCong, pMeanRespSeparateHighCong,
pHiRespSeparateHighCong, pLoRespSeparateMedCong, pMeanRespSeparateMedCong, pHiRespSeparateMedCong)
> colnames(respCiteSeparateXcong) <- c("count", "separateCite", "lbLow", "estLow", "ubLow", "lbHigh",
"estHigh", "ubHigh", "lbMed", "estMed", "ubMed")
> respCiteSeparateXcong$pet <- 0
>
> respSeparateCiteTable <- ggplot(respCiteSeparateXcong, aes(x = separateCite)) +
+               geom_line(aes(y = estLow), color = "red") +
+               geom_line(aes(y = lbLow), linetype = "dashed", color = "red") +
+               geom_line(aes(y = ubLow), linetype = "dashed", color = "red") +
+               geom_line(aes(y = estHigh), color = "blue") +
+               geom_line(aes(y = lbHigh), linetype = "dashed", color = "blue") +
+               geom_line(aes(y = ubHigh), linetype = "dashed", color = "blue") +
+               geom_line(aes(y = estMed), color = "green") +
+               geom_line(aes(y = lbMed), linetype = "dashed", color = "green") +
+               geom_line(aes(y = ubMed), linetype = "dashed", color = "green") +
+               theme_light()

> respSeparateCiteTable
>
> ####################################
> ### STEP 6C: WRITE OUT FOR GRAPHS ###
> ####################################
>
> citesSepXcong <- rbind(petCiteSeparateXcong, respCiteSeparateXcong)
>
> write.csv(citesSepXcong, "~/Dropbox/VanityCitations/JOP\ Final/Dataverse/
Analysis2SeparatePredProbs.csv")
>
>
>
```