1   The Language of War: A Replication and Extension of Abe (2012) and Matsumoto et al.

2   (2015)

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16   Abstract

17   Legislative bodies have very important roles and understanding the psychology of their

18   decision-making processes is a useful area of study. We add to this area by replicating two

19   previous studies Abe (2012) and Matsumoto, Frank, and Hwang (2015) in the context of a

20   legislative body. The present study hypothesized that legislators who support war measures

21   be externally focused and less cognitively complex in their speeches while opponents of war

22   measures would be internally focused. Speeches were obtained pertaining to the decisions for

23   the U.S. to take military action in Kosovo, Iraq, and Libya. While we found mixed results

24   depending on the circumstances of a specific conflict, we demonstrate how automated

25   language analysis can be combined with voting records to better understand behavioral

26   action, such as legislative decision.

27   *Keywords:* language, war, congress, pronouns, verbs

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30   In the last few years, numerous civil disputes worldwide, which might threaten

31   American interests and human rights, have spurred considerable debate over American

32   military intervention. Despite declines in legislative control of foreign policy, the U.S.

33   Congress still plays an important role in deciding how the military is used by retaining the

34   rights to formally declare war, limit the use of military force, and control military

35   appropriations (Phelps & Boylan, 2002). Previous research examined the predictors of

36   presidential use of military force (Clark & Nordstrom, 2005; Keller & Foster, 2012) and

37   predictors of public support for war (Cohrs & Moschner, 2002; Friese, Fishman, Beatson,

38   Sauerwein, & Rip, 2009; McCleary, Nalls, & Williams, 2009). However, the predictors of

39   legislative support of military action have been understudied, thus presenting an interesting

40   opportunity for exploration as well as replication of past studies in new contexts (Kriner &

41   Shen, 2014).

42   In this study, we sought to replicate two studies of the role of linguistic style in

43   predicting war attitudes and behaviors, Abe (2012) and Matsumoto et al. (2015). Rather

44   than use what people were thinking about, these studies focused on how people were

45   thinking about the issues surrounding war freeing the investigation from issues of context as

46   well as allowing a more psychological understanding of the process of conflict decisions and

47   rationalizations. Abe (2012) analyzed the cognitive styles and attentional focus of online

48   discussions of the Iraq War finding supporters of the war tended to have an external focus

49   while opponents tended to have an internal focus. Those without a strong stance on the war

50   exhibited greater cognitive complexity. Matsumoto et al. (2015) analyzed the same linguistic

51   constructs for texts of world leaders preceding acts of aggression, such as wars or bombings,

52   finding similar results with higher external focus and lower cognitive complexity preceding

53   aggressive acts. In our replication of these studies, we analyze the same linguistic constructs

54 in the context of a legislative body (i.e. U.S. Congress) voting on war measures.

Psychological Language Analysis

56   Language, including political rhetoric, is the fusion of content and style words. Within
57 any given sample of language, content words answer the question of what is being said, while
58 style words answer the question of how it is being said. Content words include nouns, verbs,
59 and adjectives, and style words include pronouns, prepositions, articles, conjunctions,
60 negations, and quantifiers (Pennebaker, 2011). The Linguistic Inquiry and Word Count
61 program (LIWC2007; Pennebaker, Booth, & Frances, 2007) is text analysis software
62 developed to summarize these types of words by breaking them down into 82 language
63 categories. Besides style words, the LIWC measures constructs including: a) cognitive
64 processes, such as *know*, *because*, and *none* reflecting causation, exclusivity, and certainty, b)
65 emotionality, which include words such as *happy*, *sad*, and *angry*, c) relativity, such as *go*,
66 *down*, and *until* reflecting motion, space, and time, and d) personal concerns like money,
67 death, and religion among others.

68   In many fields including social psychology, the LIWC analysis has become a common
69 way to better understand psychological processes through the words people use. Tausczik
70 and Pennebaker (2010) reviewed over 100 articles that used language as a basis for studying
71 other constructs; specifically, these studies investigated how categories in the LIWC are
72 related to psychological phenomena, such as attention, dominance, and deception. In the
73 current investigation, we focus on attention as a potential mechanism for understanding how
74 legislator's might work through decisions about war.

75   Just as a person's gaze can illuminate where their attention is so can the words they
76 use. Specifically, pronouns and verb tense can demonstrate attentional focus by indicating
77 who or what someone is attending to in a situation and how they are processing the

78 situation. Therefore, greater use of first person pronouns indicated a self-focus, third person

79 pronouns indicated a focus on others, and verb tense indicated whether the focus was on

80 past, present, or future events (Tausczik & Pennebaker, 2010). Attentional focus in the form

81 of pronouns has been linked to depression (Rude, Gortner, & Pennebaker, 2004), bullying

82 (Kowalski, 2000), and marital satisfaction (Simmons, Gordon, & Chambless, 2005). In the

83 studies we seek to replicate, Abe (2012) found supporters of the war tended to have an

84 external focus, using more third person pronouns, while opponents of the war tended to have

85 an internal focus, using more first person pronouns. Matsumoto et al. (2015) also found

86 greater use of plural third person pronouns (i.e., *we*, *us*) predicted aggressive acts by groups

87 by examining historical texts.

88   Another construct which can be automatically measured from language is cognitive

89 complexity. Originally developed by Pennebaker and King (1999), cognitive complexity

90 measures the extent to which people are drawing distinctions between concepts and

91 integrating ideas. In past studies, cognitive complexity has been found to be related to

92 individual differences measures such as extroversion and conscientiousness (Pennebaker &

93 King, 1999), aggressive behaviors (Pennebaker, 2011), and reactions to negative events (Abe,

94 2011). Most relevant to the current study, Matsumoto et al. (2015) found cognitive

95 complexity to decrease immediately before acts of aggression which is the effect we wish to

96 replicate.

97   The purpose of the current studies is to determine if past studies on war decisions and

98 aggression replicate in the context of the U.S. Congress when voting on war measures.

99 **Hypotheses**

100   H1: Legislators supporting war measure will have an external focus and use more 3rd

101 person pronouns (particularly 3rd person plural pronouns) (Abe, 2012; Matsumoto et al.,

2015).

H2: Legislators opposing war measure will have an internal focus and use more 1st person pronouns (Abe, 2012).

H3: Legislators supporting wars measure will exhibit lower cognitive complexity than those opposing the measure (Matsumoto et al., 2015).

Method

Language Samples

Linguistic frequency analysis was conducted on political speeches gleaned from Congress. The source of language samples was the Congressional Record, a searchable database containing a record of each session of Congress since 1995 available at https://www.congress.gov/congressional-record, which is maintained by the U.S. Government Publishing Office. For this study, we searched for pertinent speeches from January 27, 1998 to September 19, 2013. Records were included if they pertained to U.S. relations with the following countries: Iraq, Libya, and Kosovo (see below for explanation of country selection). Samples were split by session date and person speaking, and therefore, each person could be represented multiple times in the dataset. Each file in the Congressional Record includes all speeches from the day selected, therefore, we separated each person's speeches by day into different files for processing. For example, a Senator may respond back and forth with an invited guest speaker, and all the Senators spoken words would be combined into one file for that day. Only Senators and Representatives were included in this analysis. These speeches were then coded for party affiliation of the Congressperson. All processed data, as well as an R markdown document with data analysis scripts inline with this manuscript (Aust & Barth, 2017) can be found at https://osf.io/r8qp2/.

125 **Variables**

126   **Language.**   Each language sample was analyzed using the Language Inquiry and

127 Word Count (Pennebaker et al., 2007). The LIWC provides percentages of each individual

128 text that fall into each category of words. We examined pronouns for Hypotheses 1 and 2.

129 The pronouns category included first person singular and plural pronouns (*I, me, we*),

130 second person pronouns (*you, your*), and third person singular and plural pronouns (*he, she,*

131 *they*). To measure external focus, third person singular and third person plural pronouns

132 were added together. To measure internal focus, first person pronouns both singular and

133 plural were added together. For Hypothesis 3, cognitive complexity was calculated using the

134 same formula as Abe (2012). The LIWC categories of exclusives, negations, tentative words,

135 and conjunctions were z-scored and summed together.

136   **Military Action.**   For the purpose of this study, military action was defined as

137 military personnel being sent into another nation to coerce the actions of that nation. In the

138 past 15 years, the U.S. has taken military action against Iraq, Afghanistan, Kosovo, and

139 Libya, although Congress did not explicitly approve action in Afghanistan or Libya.

140 Operational definitions for support for war were voting records (yay, nay) on bills

141 authorizing military action for Iraq, Kosovo, and Libya (only voted on in the House). These

142 bills were House Joint Resolution 114, 107th Congress (2002); Senate Concurrent Resolution

143 21, 106th Congress (1999); and House Joint Resolution 68, 112th Congress (2011). Oppose

144 or support information was combined with the LIWC percentages described above.

145 **Data Analytic Technique**

146   The data collected include multiple language samples by the same senator and are

147 structured by both party affiliation and region of interest. This structure was best analyzed

148 with multilevel modeling, which allowed us to control for the correlated error terms of

senator and party. We used the *nlme* package to calculate the means and standard deviation

for each variable by voting recording (Pinheiro, Bates, Debroy, Sarkar, & Team, 2017). The

intercept was used to predict the dependent variable (LIWC category percent), which creates

a mean score for the dependent variable. Party affiliation and Congressperson name were

controlled as random intercept factors (Gelman, 2006). The standard error of the estimate

was translated into standard deviation by multiplying by the square root of n for the sample.

This analysis was bootstrapped using the *boot* library 1000 times, and the normal confidence

interval for the mean was calculated using this function (Canty & Ripley, 2017). These

values were separated by voting record, Senate/House, and country of interest. The means

and confidence intervals are presented in forest plots to show the relative percentages for

each combination. The bootstrapped standard deviation values were used to calculate d_s

values using the MOTE library with the pooled standard deviation as the denominator

(Buchanan, Valentine, & Scofield, 2017; Lakens, 2013).

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Study 1A - Kosovo in the House

In early 1998, violence erupted in the Serbian region of Kosovo between ethnic

Albanians and the Serbian government. A peace agreement later in the year lasted until the

beginning of 1999 when several Albanian civilians were killed, prompting a resurrection of

hostilities. When the Serbian government, namely President Slobodan Milosevic, failed to

concede to allowing a NATO peacekeeping force in Kosovo during February 1999

negotiations, NATO authorized air strikes against Serbian targets. This decision

Table 1

Descriptive statistics for each dependent variable by chamber, region, and military support for Kosovo

Chamber	Region	DV	M_O	SD_O	M_S	SD_S	d_s	d_s LL	d_s UL
House	Kosovo	i	1.84	1.16	2.34	1.61	-0.36	-0.63	-0.08
House	Kosovo	we	3.12	1.56	2.91	2.06	0.11	-0.16	0.39
House	Kosovo	shehe	0.51	0.54	0.56	0.71	-0.08	-0.35	0.20
House	Kosovo	they	0.66	0.56	0.80	0.98	-0.18	-0.45	0.09
House	Kosovo	complex	0.62	2.50	-0.55	3.05	0.62	0.34	0.90
House	Kosovo	internal	4.95	2.01	5.27	2.74	-0.13	-0.40	0.14
House	Kosovo	external	1.15	0.88	1.34	1.14	-0.19	-0.47	0.08
Senate	Kosovo	i	2.19	1.16	1.96	1.78	0.15	-0.41	0.71
Senate	Kosovo	we	3.13	1.89	1.54	0.57	1.18	0.56	1.78
Senate	Kosovo	shehe	0.44	0.82	0.47	0.40	-0.05	-0.61	0.51
Senate	Kosovo	they	0.79	0.62	0.53	0.36	0.51	-0.06	1.08
Senate	Kosovo	complex	0.14	9.11	-1.47	2.41	0.25	-0.31	0.81
Senate	Kosovo	internal	5.31	2.24	3.54	1.93	0.85	0.26	1.43
Senate	Kosovo	external	1.22	1.14	1.04	0.60	0.21	-0.35	0.77

Note. Confidence intervals for d_s were calculated using non-central t distribution. O = Oppose, S = Support, LL = Lower Limit, UL = Upper Limit.
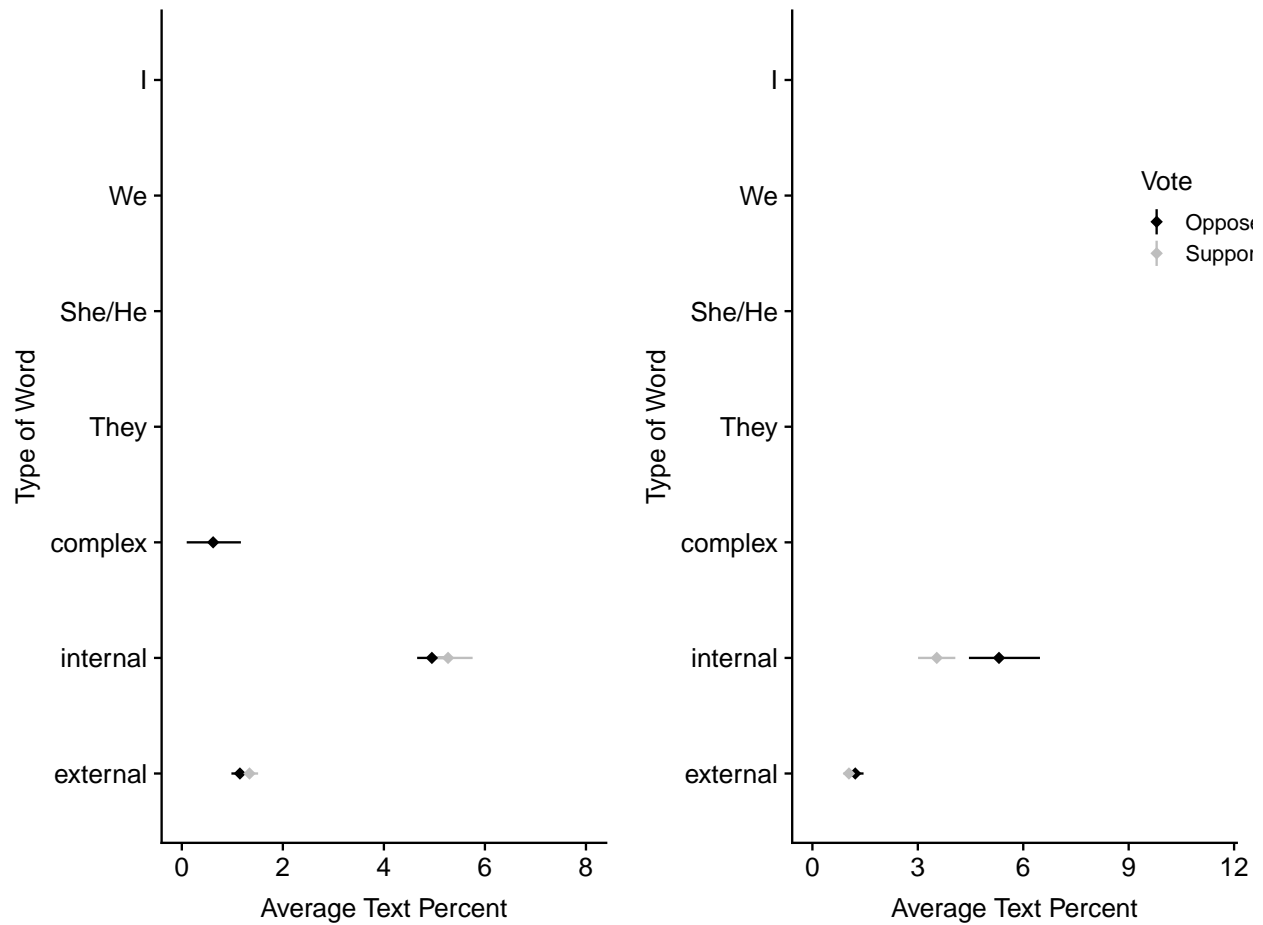
Figure 1. House (left) and Senate (right) bootstrapped means and 95% confidence interval for pronouns and verb tenses for Kosovo.

173 subsequently prompted debate within the U.S. Congress as to the involvement of the U.S.

174 military in NATO's operations in Serbia and Kosovo (Woehrel & Kim, 2006).

175   In this study, we examine this debate in the U.S. House of Representatives to

176 determine if members of Congress who supported U.S. military involvement focused on

177 people or events differently than those who opposed it.

Method

Speeches made in the House of Representatives pertaining to the use of military force in Kosovo/Serbia were gathered from the Congressional Record available from the U.S. Government Publishing Office. In total, 210 speeches were collected. Speeches were limited to those made in the year preceding the vote on Senate Concurrent Resolution 21 made on April 28, 1999 to allow the President to conduct air and missile strikes against Yugoslavia (Serbia and Montenegro). This resolution failed in the House with 213-213 with 86% of Democrats supporting the resolution and 84% of Republicans opposing. These speeches were made by 156 unique speakers where where Republicans gave 108 speeches, Democrats gave 98 speeches, one Independent, one Non-Partisan, and two non-Representatives. Five speeches were excluded for no voting record. The average word count was 700.51 ($SD = 814.04$).

Results

A forest plot of the results can be found in Figure 1, and all descriptive statistics can be found in Table 1. Results only weakly supported Hypothesis 1. The trend is in the hypothesized direction with supporters of military action displaying greater external focus, but the effect is non-significant. Hypothesis 2 was not supported; legislators opposing the war measure did not display a greater internal focus. In fact, supporters of the measure used more 1st person singular pronouns (e.g. I-words) contrary to our hypothesis. Hypothesis 3 was supported with supporters of the war measure showing lower cognitive complexity than those who opposed it.

Study 1B - Kosovo in the Senate

In the second part of this study, we examined the Kosovo debate in the U.S. Senate to determine if the differences found in the first part of the study replicate in a slightly different

201   context.

Method

203   Speeches were gathered in the same manner as in the first part of the study. All

204   speeches made in the Senate in the year before the March 23, 1999 vote on Senate

205   Concurrent Resolution 21. This resolution passed the Senate with 58 supporting and 41

206   opposing. All but 3 Democrats supported the resolution while 70% of Republicans opposed

207   it. A total of 49 speeches were collected. These speeches were made by 25 unique senators

208   with 12 speeches by Democrats and 37 by Republicans. The average word count for these

209   speeches was 1413.14 ($SD = 1076.37$).

Results

211   Analyses were conducted in the same manner as the first part of the study with

212   bootstrapped means and CIs calculated for the seven categories marking attention. Results

213   can be seen as a forest plot in Figure 1 and Table 1. For the Senate, Hypothesis 1 was not

214   supported. No significant differences in external focus or 3rd person plural pronouns were

215   found. Hypothesis 2 was supported with legislators opposing the war measure displaying a

216   much higher internal focus than legislators supporting the war measure. Hypothesis 3 was

217   partially supported. While not statistically significant, supporters of the war measure tended

218   to show lower cognitive complexity than those who opposed it.

Discussion

220   The results of this first study only consistently support Hypothesis 3 (supporters of

221   war measures would be less cognitively complex). The results were inconsistent for

222   Hypothesis 1 and 2 (supporters of war measures would be more externally focus while those

opposing would be internally focused) in that effects found for the House and Senate are non-overlapping. For Hypothesis 1, supporters of war in the House were marginally more externally focused but the effect was not replicated for the Senate. For Hypothesis 2, those opposing the measure in the Senate were more internally focused, but the same could not be said for those in the House. It is difficult to know exactly why this is the case; however there are several possible explanations. First, voting in Congress is exceedingly complex and is influenced by much more than floor debates in a given chamber. In this case, the Senate vote on the resolution occurred before the main debate in the House, which may have influenced what the debate focused on. Second, the Senate and the House are composed differently. Members of the House serve two year terms while Senators serve six year terms. Furthermore, Senators typically have more political experience than members of the House. These, as well as other factors, may help explain the differential effects for the two chambers of Congress.

Based on the findings of Abe (2012) and Matsumoto et al. (2015), we expected more consistent support for our hypotheses. However, the results could also be explained by the situation posed by the particular resolution. In this conflict, rather than responding to an act of aggression or a perceived threat, the U.S. was deciding the extent to which the U.S. would be involved in ongoing NATO (a treaty organization of which the U.S. is a member) operations in Kosovo and Serbia. It is possible that some viewed the outgroup as NATO rather than Serbians. In this case, with no clear, immediate threat to the U.S., for those making ingroup-outgroup distinctions, protecting the ingroup may have meant opposing the war rather than supporting it. In order to determine if the situation surrounding the Kosovo conflict may have impacted the first study, we next turned to examine the Iraq War which was had more support and also represented a possible clear threat to the U.S.

₂₄₆ **Study 2A - Iraq in the House**

₂₄₇   In this next study, we examined the debate preceding the congressional approval of the

₂₄₈ use of military force against Iraq. Regime change had been a long-standing position of the

₂₄₉ U.S. toward Iraq following the Gulf War; however serious military action was not considered

₂₅₀ until after the World Trade Center attacks on September 11, 2001. In 2002, President Bush

₂₅₁ declared Iraq part of an "axis of evil" in his State of the Union address. Iraq's repeated

₂₅₂ violations of nuclear arms agreements, ties to terrorist organizations, and pursuit of weapons

₂₅₃ of mass destruction were argued by the Bush Administration to potentially pose a major

₂₅₄ threat to U.S. national security. This prompted the debate within Congress as to whether or

₂₅₅ not to approve President Bush's request for military action (Katzman, 2002). These studies

₂₅₆ were used to determine if the findings from the first study extend to a different conflict.

₂₅₇ Specifically, in the first part of this study, we examined the debate in the House of

₂₅₈ Representatives to determine if members of Congress who supported taking military action

₂₅₉ used more self and future references.

₂₆₀   **Method**

₂₆₁   Once again using the Government Publishing Office, we collected speeches given in the

₂₆₂ House of Representatives pertaining to the use of U.S. military force against Iraq in the three

₂₆₃ months before the vote on House Joint Resolution 114 on October 10, 2002. This bill passed

₂₆₄ the House with a 296-133 majority; with most Republicans supporting the measure and 60%

₂₆₅ of Democrats opposing. A total of 274 speeches were collected representing 233 unique

₂₆₆ speakers. Of these speeches, 155 speeches were made by Democrats, 119 were made by

₂₆₇ Republicans. The average word count of the speeches was 742.34 ($SD = 1053.45$). Four

₂₆₈ speeches were excluded for no voting record.

Results

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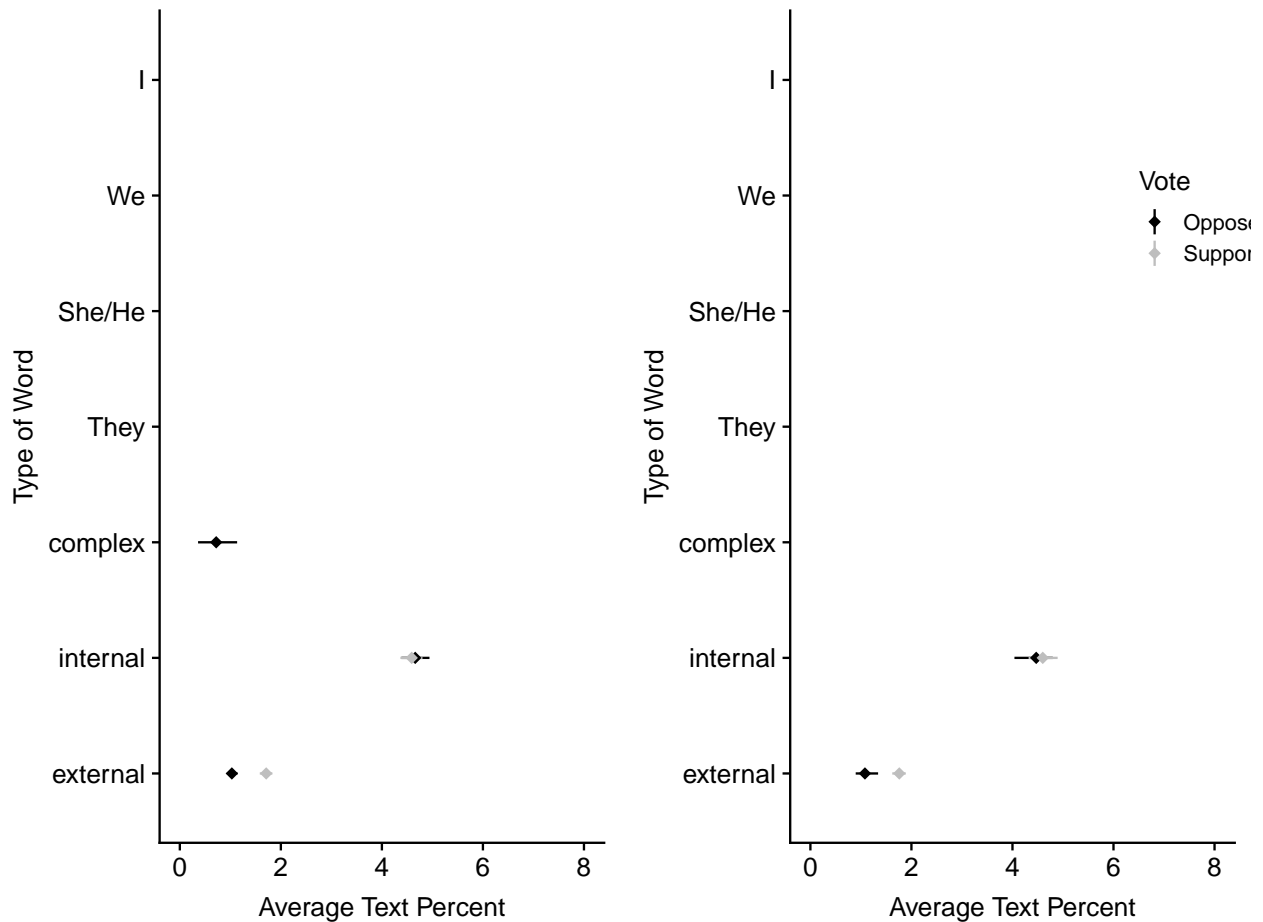

Figure 2. House (left) and Senate (right) bootstrapped means and 95% confidence interval for pronouns and verb tenses for Iraq.

274   As in the first study, bootstrapped means and confidence intervals as well as effect sizes

275 (Cohen's d_s) were calculated for speeches of those supporting the measure versus those

276 opposing the measure for the following LIWC categories: first-person singular (*I*),

Table 2

Descriptive statistics for each dependent variable by chamber, region, and military support for Iraq

Chamber	Region	DV	M_O	SD_O	M_S	SD_S	d_s	d_s LL	d_s UL
House	Iraq	i	1.66	1.33	1.90	2.15	-0.13	-0.37	0.11
House	Iraq	we	3.01	1.61	2.76	1.37	0.17	-0.07	0.41
House	Iraq	shehe	0.56	0.56	1.16	0.92	-0.77	-1.02	-0.52
House	Iraq	they	0.46	0.51	0.49	1.36	-0.03	-0.27	0.21
House	Iraq	complex	0.72	2.80	-0.57	2.70	0.47	0.23	0.72
House	Iraq	internal	4.66	1.98	4.59	1.82	0.03	-0.21	0.28
House	Iraq	external	1.03	0.82	1.71	1.08	-0.70	-0.95	-0.45
Senate	Iraq	i	1.99	1.25	1.98	1.60	0.01	-0.36	0.37
Senate	Iraq	we	2.47	0.97	2.61	1.15	-0.13	-0.50	0.23
Senate	Iraq	shehe	0.60	0.47	1.20	0.62	-1.03	-1.42	-0.65
Senate	Iraq	they	0.49	0.32	0.56	0.40	-0.19	-0.55	0.18
Senate	Iraq	complex	0.38	2.85	-0.13	3.45	0.16	-0.21	0.52
Senate	Iraq	internal	4.47	1.47	4.60	1.82	-0.08	-0.44	0.29
Senate	Iraq	external	1.08	0.62	1.76	0.81	-0.89	-1.26	-0.50

Note. Confidence intervals for d_s were calculated using non-central t distribution. O = Oppose, S = Support, LL = Lower Limit, UL = Upper Limit.

first-person plural (*we*), third-person singular (*he*, *she*), third-person plural (*they*) as well as composite measure for external focus, internal focus, and cognitive complexity. Results can be seen as a forest plot in Figure 2 and in Table 2. Support was found for Hypothesis 1. Legislators supporting the war measure were more externally focused. However, rather than being primarily driven by third-person plural pronouns (*they*), the largest differences was in third-person singular pronouns (*he*). Hypothesis 2 was not supported; no significant difference was found in internal focus. Hypothesis 3 was supported; supporters of the war measure were significantly less cognitively complex than those who opposed it.

Study 2B - Iraq in the Senate

In the second part of this study, we examined the debate in the Senate. We wished to determine if, like senators who opposed military action in Kosovo, senators who opposed action against Iraq used more group references as well as more reference to current events or if senators were more like House members debating Iraq.

Method

In this part of the study, speeches from the Senate were gathered for the 6 months before the Senate vote on House Joint Resolution 114 conducted on October 11, 2002. The bill passed with a 77-23 majority. All but one Republican supported the measure as did 58% of Democrats. In total, 138 speeches were collected representing 85 unique speakers. Of these speeches, 74 were given by Democrats and 64 by Republicans. The average word count for these speeches were 1991.23 ($SD = 1671.70$).

Results

298   Analyses were conducted in the same manner as the first part of the study to

299   determine differences between supporters and opponents of military action in Iraq in terms

300   of the use of first-person singular (*I*), first-person plural (*we*), third-person singular (*he*, *she*),

301   third-person plural (*they*) as well as composite measure for external focus, internal focus,

302   and cognitive complexity. Figure 2 displays these results as a forest plot, and all values are

303   in Table 2. Hypothesis 1 was once again supported. Senators supporting the war legislations

304   were more externally focus, and like in the House, tended to use third-person singular

305   pronouns (*he*) at higher rates. Once again, we failed to find support for Hypothesis 2 with

306   no significant differences found in internal focus. Finally, while not statistically significant,

307   cognitive complexity tended to be lower for Senators supporting the war measure providing

308   at least partial support for Hypothesis 3.

309   **Discussion**

310   The results from this second study more closely matched our hypotheses. For both the

311   House and Senate, members of Congress who supported taking military action were more

312   externally focused than those who opposed taking military action. However contrary to our

313   hypothesis, the difference in external focus was driven by third person singular pronouns (*he*)

314   rather than third person plural pronouns (*they*). Although this finding was not quite the

315   result we expected, these differences make sense in light of the situation. In the case of the

316   Iraq War, the threat was seen not as a group of people but rather a single individual,

317   Saddam Hussein. Hence, for supporters of military action, their focus was still external as

318   was expected (Abe, 2012; Matsumoto et al., 2015); however, their focus was on an individual

319   rather than a group.

320   The second hypothesis was not supported. In both the House and Senate, legislators

321 who opposed the war measure were not more internally focused than those who supported it.

322 As was stated previously, this difference in results could be due to voting procedures or

323 compositional differences in the House and Senate. Finally, our third hypothesis was once

324 again consistently supported. Those who supported the war measures showed less cognitive

325 complexity than those who opposed them in both the House and Senate.

326   As a final test of our hypotheses, we examined the Congressional debate surrounding

327 U.S. involvement in Libya during its 2011 civil war. We might expect to find similar results

328 to Study 1 as, like the Kosovo war, there was less support for U.S. military involvement as

329 well as a lack of a perceived clear, immediate threat to the U.S.

330   **Study 3 - Libya in the House**

331   In this final study, we examine the debate in the House of Representatives surrounding

332 U.S. military involvement in Libya during its revolution. In February 2011, a revolt against

333 Libyan dictator, Muammar Qaddafi, prompted the intervention of NATO when Qaddafi

334 violently suppressed all opposition. The involvement of NATO lead to debate within

335 Congress as to the exact role of the U.S. in military operations in Libya and the extent of

336 U.S involvement (Blanchard, 2011). In examining this debate, we wished to determine if the

337 language of those who supported or opposed military action was similar to those of either of

338 the first two studies.

339   **Method**

340   In this final study, the Congressional Record was searched for speeches given in the

341 House of Representatives pertaining to the debate of the authorization of military action

342 against Libya in the three months before the vote on House Joint Resolution 68 on June 24,

343 2011. The bill failed in the House 123-295. All but 14 Republicans voted against the

Table 3

Descriptive statistics for each dependent variable by chamber, region, and military support for Libya

Chamber	Region	DV	M_O	SD_O	M_S	SD_S	d_s	d_s LL	d_s UL
House	Libya	i	2.47	1.66	2.31	1.13	0.11	-0.31	0.53
House	Libya	we	3.08	2.22	2.89	1.87	0.09	-0.33	0.51
House	Libya	shehe	0.61	0.83	0.64	0.85	-0.04	-0.46	0.38
House	Libya	they	0.60	0.91	0.64	0.72	-0.04	-0.46	0.37
House	Libya	complex	0.34	3.25	-0.75	3.09	0.34	-0.08	0.76
House	Libya	internal	5.34	1.75	5.17	2.00	0.09	-0.32	0.51
House	Libya	external	1.20	1.38	1.25	1.21	-0.04	-0.46	0.38

Note. Confidence intervals for d_s were calculated using non-central t distribution. O = Oppose, S = Support, LL = Lower Limit, UL = Upper Limit.

resolution while 60% of Democrats supported the resolution. A total of 104 speeches were collected representing 76 unique speakers. Democrats made 53 of these speeches while 51 speeches were made by Republicans. The average word count for these speeches was 465.93 ($SD = 477.41$). As the resolution failed in the House, it was not possible to examine this debate in the Senate. Five speeches were excluded for no voting record.

Results

As in the first two studies, analyses consisted on comparing the bootstrapped means, CIs, and effects sizes for those who supported the military measure versus those who opposed it on the following linguistic measures: first-person singular (*I*), first-person plural (*we*), third-person singular (*he*, *she*), third-person plural (*they*), past-tense, present-tense, and future tense. These results are displayed in Figure 3 as a forest plot and in Table 3. No
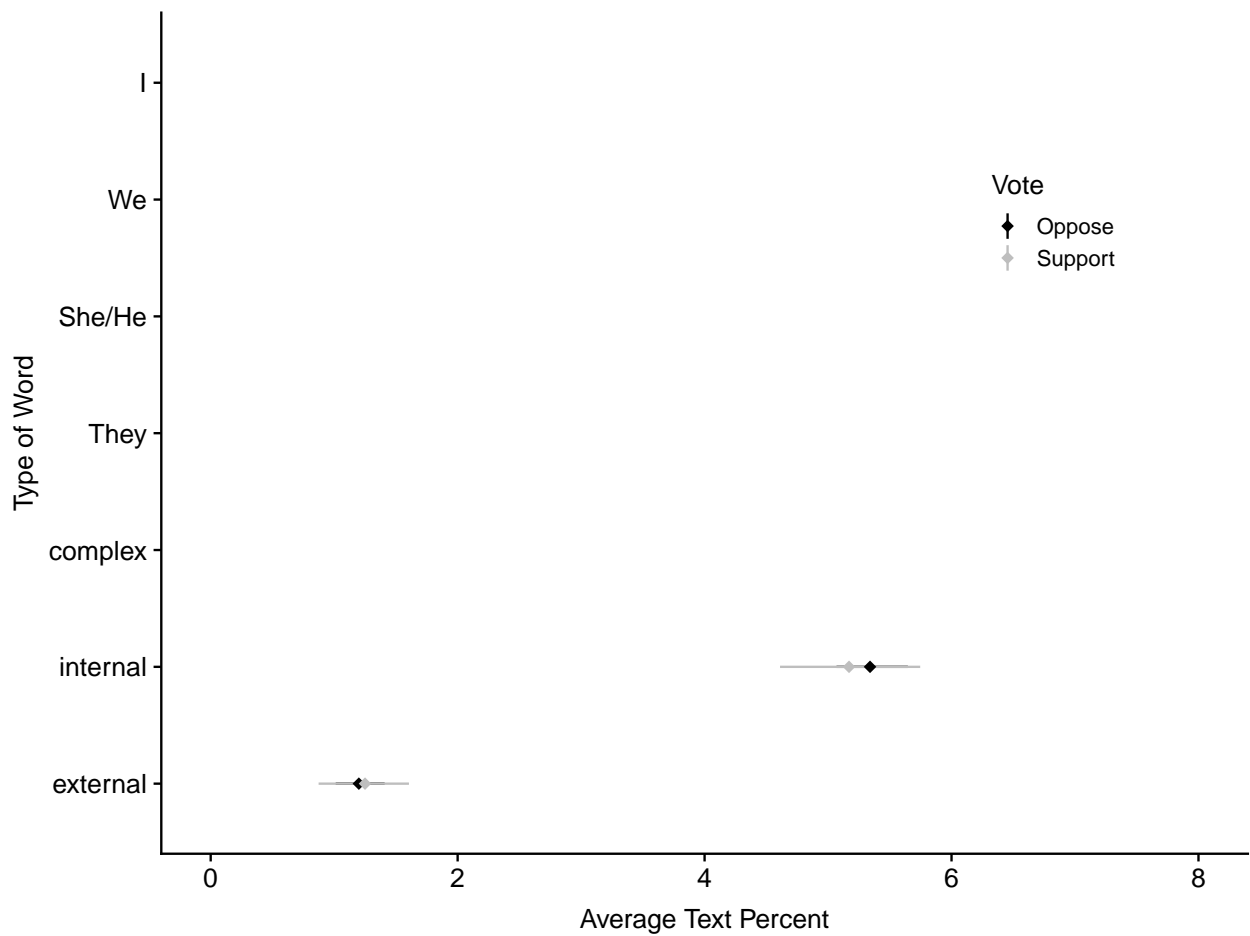
Figure 3. House (left) and Senate (right) bootstrapped means and 95% confidence interval for pronouns and verb tenses for Libya.

355 differences emerged on any measure.

Discussion

357   Though the evidence from this third study is somewhat weak, all three hypothesis were

358 at least partially supported. The relatively small sample size limited the power of the study,

359 but trends in each case were in the hypothesized direction. In addition to potentially limited

360 power, our finding from Studies 1 and 3 could indicate that in situations where there is less

361 Congressional support for military action and no clear, immediate threat to the U.S., the

362 difference between support and opposition for military action is not a matter of attentional

363 focus but rather other social and political forces.

General Discussion

365   Across all three studies, we found consistent, if somewhat weak evidence that

366 supporters of war measures show less cognitive complexity in their speeches than those on

367 the opposing side (Hypothesis 3) replicating part of the Matsumoto et al. (2015) study.

368 When it comes to consideration of aggressive acts like war, our studies would suggest that

369 legislators (at least in the U.S.) reason similarly to the executive leaders analyzed by

370 Matsumoto et al. (2015). Political figures in favor of aggressive measures seek to simplify the

371 debate whereas those against aggressive measure may seek to consider the issue more deeply.

372 Whether the decreased cognitive complexity before aggression is a rhetorical strategy,

373 ideological beliefs, cognitive style, or some other factor is worth further investigation.

374   Our hypotheses regarding internal and external focus were not consistently supported.

375 Support for hypothesis 1 was found only in the case of the debate around the Iraq War.

376 Interestingly, the Iraq War legislation was the only of our case in our three studies which

377 received majority support in both the House and Senate. Differences in external focus may

378 depend partially on the aggressive act having the support of the majority or having popular

379 support or there being a potentially immediate, clear threat to the U.S. legislators could

380 point to. In the cases of Kosovo and Libya, legislators may have supported the war measures

381 for reasons other than aggression such as to support the president's agenda.

382   Hypothesis 2 received the least support of any of our hypothesis with significant

383 differences found only in the Senate debate of the Kosovo resolution failing to replicate Abe

384 (2012). Unlike Hypotheses 1 and 3 which are at least partially based in Matsumoto et al.

385 (2015)"s study of executive, Hypothesis 2 is solely based in Abe (2012)'s study of the war

386 attitudes of ordinary citizens. Our results suggest that findings of Abe (2012) may only

generalize to laypeople and fail to capture the processes at work with the war decisions of political elites. Additionally, we may have only partially replicated Matsumoto et al. (2015) is due to changes in the dynamics of war. While Matsumoto et al. (2015) examined events spanning 1830 to 2010, our study focused on three recent conflicts within the context of U.S. legislator bodies. Historically, the U.S. would declare war on another nation (i.e., fighting the Germans in WWI). In WWII, a slight shift occurred where the U.S. was fighting not only another nation but also an ideology (Nazi Germany, Fascist Italy). With the beginning of the Cold War, another movement happened where the U.S. did not directly fight another nation (USSR) but instead fought indirectly with proxy wars (Korean War, Vietnam War) while battling against enemy ideology (Communism). After the Cold War and the fall of the Soviet Union, the focus shifted to the United States" main conflict being the war on terror in which there is no nation to battle against just an idea (Matthews, 2014). Furthermore, Balas, Owsiak, and Diehl (2012) argued that one possible motivation for war, since the end of the Cold War, was the increased emphasis on the international norms of democratization and humanitarianism. Hence, rather than capturing solely support for aggressive actions, our study of congressional debates in this context may have also captured legislators' attitudes toward humanitarianism, globalization, and terrorism. Further work would be necessary to the different reasons why political figures might support or oppose a war measure.

Limitations

The sample and methods used in the study, while useful, can also be somewhat limited in scope. First, even though the Congressional Record represents everything said on the floor of Congress, it does not necessarily represent the entirety of Congress. Our sample incorporates nearly 15 years in Congress. This time period encompassed seven election cycles and at any given time, there are 100 senators and 435 congressmen and women. While our data set likely included speeches from the more influential senators and congressmen and

women, we cannot predict voting from those who did not speak. Furthermore, our findings

regarding masculine versus feminine pronouns could be confounded by the

under-representation of women in Congress. In the 113th Congress, women comprised 20%

of the Senate and 18% of the House (Manning & Brudnick, 2014). For the years of voting

records we used, there were 96 women in Congress in 2011, 73 in 2002, and 67 in 1999

compared to 105 women in the current Congress. Another limitation is tied to using word

frequency as an independent measure, although Tausczik and Pennebaker (2010) have

provided support for this research. Word frequency is a meaningful measure of language,

though it does fail to take into account context, sarcasm, and other subtle aspects of

language.

Future Directions

While we were unable to completely replicate the previous studies, the method used has

great potential for replicating past work on political behaviors and attitudes in a legislative

context as well as enhancing the understanding of legislative decision making. We examined

only one small area of policy using a single psychological process, but future research could

explore foreign policy more widely or education policy or any number of legislative areas

where there is recurrent debate. Furthermore, our investigation was limited to studying

attentional focus and cognitive complexity, but with LIWC2015 or other language analysis

methods, future research could examine thinking style, emotionality, authenticity, cognitive

processing, or any number of other psychological constructs. When it comes to politics there

is no lack of political language, making language analysis a powerful tool for political

psychology, especially when combined with other behavioral data such as voting records.

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