- The Language of War: A Conceptual Replication and Extension of Abe (2012) and
  Matsumoto and Hwang (2013)
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7 Abstract

Legislative bodies have very important roles and understanding the psychology of their
decision-making processes is a useful area of study. We add to this area by replicating two
previous studies: Abe (2012) and Matsumoto and Hwang (2013) in the context of a
legislative body. The present study hypothesized that legislators who support war measures
would be externally focused and less cognitively complex in their speeches, while opponents
of war measures would be internally focused. Speeches were obtained pertaining to the
decisions for the U.S. to take military action in Kosovo, Iraq, and Libya. While we found
mixed results depending on the circumstances of a specific conflict, we demonstrate how
automated language analysis can be combined with voting records to better understand
behavioral action, such as legislative decision.

18 Keywords: language, war, congress, pronouns, verbs

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In the last few years, numerous civil disputes worldwide, which might threaten 21 American interests and human rights, have spurred considerable debate over American 22 military intervention. Despite declines in legislative control of foreign policy, the U.S. Congress still plays an important role in deciding how the military is used by retaining the rights to formally declare war, limit the use of military force, and control military appropriations (Phelps & Boylan, 2002). Previous research examined the predictors of presidential use of military force (Clark & Nordstrom, 2005; Keller & Foster, 2012) and predictors of public support for war (Cohrs & Moschner, 2002; Friese, Fishman, Beatson, Sauerwein, & Rip, 2009; McCleary, Nalls, & Williams, 2009). However, the predictors of legislative support of military action have been understudied, thus presenting an interesting 30 opportunity for exploration as well as replication of past studies in new contexts (Kriner & 31 Shen, 2014). Specifically, the current study examines linguistic styles as a predictor of support for war in the contexts of the U.S. Congress by conceptually replicating Abe (2012) 33 and Matsumoto and Hwang (2013).

## Predictors of Support for Military Action

While the current study focuses on linguistic style predictors of support, it is worth briefly reviewing past work on the various factors which predict support for war. When it comes to executive leaders like presidents, there is much variance across time and context, but some predictors emerge. For example, Keller and Foster (2012) found presidents high in internal locus of control to be more likely to engage in military conflict, and Leudar, Marsland, and Nekvapil (2004) found executives engaging or planning to engage in conflict tended to use more us versus them rhetoric. Despite the executive making the ultimate decision to go to war, public opinion about the war is an important consideration for leaders

(at least in a democracy). Furthermore, public opinion is generally easier to measure and has been the focus on much work not only in psychology but also in other fields like political science. Numerous studies have found robust predictors of support for war among citizens/voters including militarism, blind patriotism, and concern for national security (Cohrs & Moschner, 2002; Friese et al., 2009; McCleary et al., 2009).

Less work has been conducted exploring predictors of support for war among 49 legislators. Kriner and Shen (2014) studied ongoing support for the Iraq War by members of 50 Congress and found opposition to the war generally related to the number of casualties from 51 the member's home district. Beyond understanding how support for war changes through 52 political rhetoric, it would also be useful to understand how legislators come to support war 53 in the first place. In the wake of several incidences of the U.S. president acting alone to 54 engage the nation in military conflict (i.e., the Vietnam War), Congress enacted the War 55 Powers Act and sought to exert its power by forcing the president to consult with them and gain approval to keep the U.S. military fighting overseas. In other words, Congress becomes 57 involved only after troops have begun fighting and must either vote in support of continuing U.S military involvement (as was the case for the Iraq War) or in opposition to the president's continued use of the military in the conflict (as was the case for the 1999 conflict in Kosovo and the 2011 Libyan conflict; Scigliano, 2017). We sought to expand past work in the area by using the debates and speeches about these votes given on the floor of Congress to predict how different members of Congress eventually voted to either support the president's use of military force or oppose it. As we use psychological text analysis to measure our predictors, the next section provides a brief overview on language analysis before we discuss the specific linguistic styles measured in the current study. 66

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## 9 Psychological Language Analysis

Language, including political rhetoric, is the fusion of content and style words. Within 70 any given sample of language, content words answer the question of what is being said, while 71 style words answer the question of how it is being said. Content words include nouns, verbs, and adjectives, and style words include pronouns, prepositions, articles, conjunctions, negations, and quantifiers (Pennebaker, 2011). The Linguistic Inquiry and Word Count program (LIWC2007; Pennebaker, Booth, & Frances, 2007) is a text analysis software developed to summarize these types of words by breaking them down into 82 language categories. Besides style words, the LIWC measures constructs including: a) cognitive 77 processes, such as know, because, and none reflecting causation, exclusivity, and certainty, b) 78 emotionality, which include words such as happy, sad, and angry, c) relativity, such as qo, 79 down, and until reflecting motion, space, and time, and d) personal concerns like money, death, and religion among others.

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

Just as a person's gaze can illuminate where their attention is so can the words they
use. Specifically, pronouns and verb tense can demonstrate attentional focus by indicating
who or what someone is attending to in a situation and how they are processing the situation.
Therefore, greater use of first person pronouns indicates a self-focus, higher use of third
person pronouns indicates a focus on others, and verb tense can indicate whether the focus

was on past, present, or future events (Tausczik & Pennebaker, 2010). Attentional focus, in
the form of pronouns, has been linked to depression (Rude, Gortner, & Pennebaker, 2004),
bullying (Kowalski, 2000), and marital satisfaction (Simmons, Gordon, & Chambless, 2005).

Another construct which can be automatically measured from language is cognitive complexity. Originally developed by Pennebaker and King (1999), cognitive complexity measures the extent to which people are drawing distinctions between concepts and integrating ideas. In past studies, cognitive complexity has been found to be related to individual differences measures such as extroversion and conscientiousness (Pennebaker & King, 1999), aggressive behaviors (Pennebaker, 2011), and reactions to negative events (Abe, 2011).

# Predicting Support from War from Linguistic Style

We sought to conceptually replicate two studies of the role of linguistic style in 105 predicting war attitudes and behaviors, Abe (2012) and Matsumoto and Hwang (2013), in 106 the U.S. Congressional context. Abe (2012) used linguistic analysis to examine the 107 relationship between cognitive – affective styles and support for the Iraq War in an online 108 discussion forum. Consistent with past work, supporters of the war had a greater external 109 focus and a more simplistic thinking style (Cohen's  $d \sim 0.35$  to 0.41). Opponents of the war 110 were more internally focused, showed greater cognitive processing, and used more negative 111 emotion words. The current work seeks to conceptually replicate Abe (2012) with three 112 changes: (1) extending to a new sample of Congressional speeches, (2) extending to 113 additional conflicts in Kosovo and Libya, and (3) focusing solely on cognitive styles. 114

Matsumoto and Hwang (2013) used speeches of world and political group leaders to more directly predict political aggression from language markers. Comparing speeches preceding violent acts of aggression to speeches preceding nonviolent acts of resistance

against some outgroups, they found greater external focus (e.g., first person plural 118 pronouns), less internal focus (e.g., first person singular pronouns), and lessened cognitive 119 complexity before aggressive acts (Cohen's  $d \sim 0.67$ ). The authors extend Abe (2012)'s work 120 into a wider political context predicting leader's actual decisions focusing on cognitive 121 linguistic markers. The current work is a more direct replication of Matsumoto and Hwang 122 (2013) with the only substantive difference being the sample itself and the outcome measure 123 (e.g., voting for war rather than actual acts of aggression). Given the variability between the 124 two studies in terms of effect size magnitude and the generally small effects found for 125 language studies, we sought generally to replicate the direction of the effects. 126

## $_{127}$ Current Study

The purpose of the current studies is to determine if past studies on war decisions and 128 aggression replicate in the context of the U.S. Congress when voting on war measures. In the 129 last few decades, Congress has had formal votes to authorize the president's use of military 130 action three times. First, in 1999, U.S. allies intervened in a civil war in Serbia, and 131 President Clinton asked Congress for formal approval to send U.S. military troops to assist 132 U.S. allies. Second, in 2002, President Bush requested approval from Congress to continue 133 military action against Iraq due to the supposed threat posed by their WMDs. Third, in 134 2011, President Obama sought approval to escalate U.S. military involvement in the Libyan 135 civil war. In each of these cases, members of Congress (House and Senate separately) gave 136 speeches opposing or supporting the president's request as well as engaged in debate with each other. The texts of these speeches and debates were analyzed to measure our linguistic style predictor variables. Members of Congress then formally voted (yay or nay) on whether 139 or not to support the use of the U.S. military in each of these conflicts which was the basis of our binary outcome variable. As the study is a conceptual/far replication, successful 141 replication for each hypothesis is defined as effects in the same direction where the

confidence interval of the mean difference (i.e., Cohen's  $d_s$ ) does not include zero.

# 144 Hypotheses

H1: Legislators supporting war measure will have an external focus and use more third person pronouns (particularly 3rd person plural pronouns) (Abe, 2012; Matsumoto & Hwang, 2013).

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

H3: Legislators supporting wars measure will exhibit lower cognitive complexity than those opposing the measure (Matsumoto & Hwang, 2013).

#### General Method

### 53 Language Samples

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Linguistic frequency analysis was conducted on political speeches gleaned from 154 Congress. The source of language samples was the Congressional Record, a searchable 155 database containing a record of each session of Congress since 1995 available at 156 https://www.congress.gov/congressional-record, which is maintained by the U.S. Government 157 Publishing Office. For this study, we searched for pertinent speeches from January 27, 1998 158 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 161 represented multiple times in the dataset. Each file in the Congressional Record includes all 162 speeches from the day selected, therefore, we separated each person's speeches by day into 163 different files for processing. For example, a Senator may respond back and forth with an 164

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/.

## 70 Variables

Each language sample was analyzed using the Language Inquiry and Language. 171 Word Count (Pennebaker et al., 2007). The LIWC provides percentages of each individual 172 text that fall into each category of words. We examined pronouns for Hypotheses 1 and 2. 173 The pronouns category included first person singular and plural pronouns (I, me, we), 174 second person pronouns (you, your), and third person singular and plural pronouns (he, she, 175 they). To measure external focus, third person singular and third person plural pronouns 176 were added together. To measure internal focus, first person pronouns both singular and 177 plural were added together. For Hypothesis 3, cognitive complexity was calculated using the 178 same formula as Abe (2012). The LIWC categories of exclusives, negations, tentative words, 179 and conjunctions were z-scored and summed together. 180

Military Action. For the purpose of this study, military action was defined as 181 military personnel being sent into another nation to coerce the actions of that nation. In the 182 past 15 years, the U.S. has taken military action against Iraq, Afghanistan, Kosovo, and 183 Libya, although Congress did not explicitly approve action in Afghanistan or Libya. Operational definitions for support for war were voting records (yay, nay) on bills 185 authorizing military action for Iraq, Kosovo, and Libya (only voted on in the House). These 186 bills were House Joint Resolution 114, 107th Congress (2002); Senate Concurrent Resolution 187 21, 106th Congress (1999); and House Joint Resolution 68, 112th Congress (2011). Oppose 188 or support information was combined with the LIWC percentages described above. Table 1 189

summarizes areas of conflict, number of speeches, and votes for each conflict by political party and the chamber of Congress.

# Data Analytic Technique

The data collected include multiple language samples by the same member of Congress 193 and are structured by both party affiliation and conflict region. Rather than analyze data 194 from each conflict region and chamber of Congress together, we chose to analyze them 195 separately in Studies 1A (House vote on Kosovo conflict), 1B (Senate vote on Kosovo 196 conflict), 2A (House vote on Iraq conflict), 2B (Senate vote on Iraq conflict), and 3 (House 197 vote on Libya conflict). The major reason for this was to conservatively test the robustness 198 of any effects and to better demonstrate the reliability of the results. Another minor reason 199 was to examine possible differences based on the unique circumstances of each conflict. The 200 war in Iraq ostensibly involved a direct threat to the U.S. where the conflicts in Kosovo and 201 Libya did not which could arguably impact how members of Congress talked about and 202 voted on them. 203

This structure was best analyzed with multilevel modeling, which allowed us to control 204 for the correlated error terms of member of Congress and party affiliation. We used the nlme 205 package to calculate the means and standard deviation for each variable by voting recording 206 (Pinheiro, Bates, Debroy, Sarkar, & Team, 2017). The intercept was used to predict the 207 dependent variable (LIWC category percent), which creates a mean score for the dependent 208 variable. Party affiliation and member of Congress were controlled as random intercept factors (Gelman, 2006). The standard error of the estimate was translated into standard 210 deviation by multiplying by the square root of n for the sample. This analysis was bootstrapped 1000 times, and the normal confidence interval for the mean was calculated 212 using this function. These values were separated by voting record, Senate/House, and 213 country of interest. The means and confidence intervals are presented in forest plots to show 214

the relative percentages for each combination. The bootstrapped standard deviation values 215 were used to calculate  $d_s$  values using the MOTE library with the pooled standard deviation 216 as the denominator (Buchanan, Valentine, & Scofield, 2017; Lakens, 2013). The  $d_s$  represents 217 the effect size, or standardized mean difference, in each of the LIWC categories between 218 members of Congress that voted for military action versus those that voted against it. 219 Instead of using a traditional null-hypothesis test with p-values, we examined if the 220 bootstrapped confidence intervals of the effect size,  $d_s$ , included zero. If the confidence 221 interval included zero, this result would indicate no support for differences in the dependent 222 variable for voting record, while confidence intervals that did not include zero indicated a 223 difference in the dependent variable for voting record.

The decision to treat the voting record on the war measures (yay or nay for continuing military action) as the IV and the linguistics styles as the DVs despite our interest in predictor support for war was made for multiple reasons. First, while technically debate happens prior to the official voting, the majority of Congress people will have made up their minds hence the debate serves more as a justification for their decisions than as a persuasive function. Second, using the linguistic styles as the DVs is consistent with Abe (2012) which is one of the studies we sought to conceptual replicate.

#### Study 1A - Kosovo in the House

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

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

In this study, we examine this debate in the U.S. House of Representatives to
determine if members of Congress who supported U.S. military involvement focused on
people or events differently than those who opposed it.

244 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 Results

A forest plot of the results can be found in Figure 1, and all descriptive statistics can
be found in Table 2. 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 weaker in magnitude than in the original studies. Hypothesis 2 was not
supported; legislators opposing the war measure did not display a greater internal focus (i.e.,
incorrect direction and magnitude of the hypothesized effect). 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 and the magnitude of the effect was similar to the original studies.

### 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 context.

270 Method

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Speeches were gathered in the same manner as in the first part of the study. All speeches made in the Senate in the year before the March 23, 1999 vote on Senate Concurrent Resolution 21. This resolution passed the Senate with 58 supporting and 41 opposing. All but 3 Democrats supported the resolution while 70% of Republicans opposed it. A total of 49 speeches were collected. These speeches were made by 25 unique senators with 12 speeches by Democrats and 37 by Republicans. The average word count for these speeches was 1413.14 (SD = 1076.37).

278 Results

Analyses were conducted in the same manner as the first part of the study with
bootstrapped means and CIs calculated for the seven categories marking attention. Results
can be seen as a forest plot in Figure 1 and Table 2. For the Senate, Hypothesis 1 was not
supported. The effect was not in the hypothesized direction and was not of the hypothesized
magnitude. Hypothesis 2 was supported with legislators opposing the war measure
displaying higher internal focus than legislators supporting the war measure with a

somewhat stronger effect size magnitude of that hypothesized. Hypothesis 3 was partially supported. Supporters of the war measure tended to show lower cognitive complexity than those who opposed it, but the effect was slightly weaker than expected.

288 Discussion

The results of this first study fail to provide consistent, strong support for any of our 289 hypotheses. Hypothesis 3 was most strongly supported. Those supporting the war measures 290 were less cognitively complex than those opposing them. However, in the case of the Senate, 291 the effect was somewhat weaker than expected. The results were inconsistent for Hypothesis 292 1 and 2 (supporters of war measures would be more externally focus while those opposing 293 would be internally focused) in that effects found for the House and Senate are 294 non-overlapping. For Hypothesis 1, supporters of war in the House were marginally more 295 externally focused (the effect was smaller than expected) but the effect was not replicated for 296 the Senate. For Hypothesis 2, those opposing the measure in the Senate were more internally 297 focused with an effect size larger than expected, but the same could not be said for those in 298 the House where the opposite effect was found. It is difficult to know exactly why this is the 299 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, 301 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 305 the House. These, as well as other factors, may help explain the differential effects for the 306 two chambers of Congress. 307

Based on the findings of Abe (2012) and Matsumoto, Frank, and Hwang (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 310 responding to an act of aggression or a perceived threat, the U.S. was deciding the extent to 311 which the U.S. would be involved in ongoing NATO (a treaty organization of which the U.S. 312 is a member) operations in Kosovo and Serbia. It is possible that some viewed the outgroup 313 as NATO rather than Serbians. In this case, with no clear, immediate threat to the U.S., for 314 those making ingroup-outgroup distinctions, protecting the ingroup may have meant 315 opposing the war rather than supporting it. In order to determine if the situation 316 surrounding the Kosovo conflict may have impacted the first study, we next turned to 317 examine the Iraq War which had more support and also represented a possible clear threat 318 to the U.S. 319

# Study 2A - Iraq in the House

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In this next study, we examined the debate preceding the congressional approval of the 321 use of military force against Iraq. Regime change had been a long-standing position of the 322 U.S. toward Iraq following the Gulf War; however serious military action was not considered 323 until after the World Trade Center attacks on September 11, 2001. In 2002, President Bush 324 declared Iraq part of an "axis of evil" in his State of the Union address. Iraq's repeated 325 violations of nuclear arms agreements, ties to terrorist organizations, and pursuit of weapons 326 of mass destruction were argued by the Bush Administration to potentially pose a major 327 threat to U.S. national security. This prompted the debate within Congress as to whether or not to approve President Bush's request for military action (Katzman, 2002). These studies were used to determine if the findings from the first study extend to a different conflict. 330 Specifically, in the first part of this study, we examined the debate in the House of 331 Representatives to determine if members of Congress who supported taking military action 332 used more self and future references. 333

334 Method

Once again using the Government Publishing Office, we collected speeches given in the
House of Representatives pertaining to the use of U.S. military force against Iraq in the three
months before the vote on House Joint Resolution 114 on October 10, 2002. This bill passed
the House with a 296-133 majority; with most Republicans supporting the measure and 60%of Democrats opposing. A total of 274 speeches were collected representing 233 unique
speakers. Of these speeches, 155 speeches were made by Democrats, 119 were made by
Republicans. The average word count of the speeches was 742.34 (SD = 1053.45). Four
speeches were excluded for no voting record.

343 Results

As in the first study, bootstrapped means and confidence intervals as well as effect sizes 344 (Cohen's  $d_s$ ) were calculated for speeches of those supporting the measure versus those 345 opposing the measure for the following LIWC categories: first-person singular (I), first-person plural (we), third-person singular (he, she), third-person plural (they) as well as 347 composite measure for external focus, internal focus, and cognitive complexity. Results can 348 be seen as a forest plot in Figure 2 and in Table 3. Support was found for Hypothesis 1. 349 Legislators supporting the war measure were more externally focused and the effect size magnitude somewhat larger than that hypothesized. The largest differences was in third-person singular pronouns (he). Hypothesis 2 was very weakly supported; the effect was 352 in the right direction, but magnitude of the effect was much smaller (0.03) than 353 hypothesized. Hypothesis 3 was supported; supporters of the war measure were less 354 cognitively complex than those who opposed it with the hypothesized magnitude. 355

## 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.

361 Method

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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

Analyses were conducted in the same manner as the first part of the study to determine 369 differences between supporters and opponents of military action in Iraq in terms of the use of 370 first-person singular (I), first-person plural (we), third-person singular (he, she), third-person 371 plural (they) as well as composite measure for external focus, internal focus, and cognitive 372 complexity. Figure 2 displays these results as a forest plot, and all values are in Table 3. Hypothesis 1 was once again supported. Senators supporting the war legislation were more 374 externally focus, and like in the House, tended to use third-person singular pronouns (he) at higher rates. The magnitude of the effect was slightly larger than hypothesized. Once again, we failed to find support for Hypothesis 2 with no differences found in internal focus with 377 both the direction and magnitude of the effect not matching our hypothesis. Finally,

cognitive complexity tended to be lower for Senators supporting the war measure providing at least partial support for Hypothesis 3 (the effect was weaker than hypothesized).

381 Discussion

The results from this second study more closely matched our hypotheses. For both the 382 House and Senate, members of Congress who supported taking military action were more 383 externally focused than those who opposed taking military action. Interestingly, the 384 difference in external focus was driven by third person singular pronouns (he) rather than 385 third person plural pronouns (they). Although this finding was not quite expected, these 386 differences make sense in light of the situation. In the case of the Iraq War, the threat was 387 seen not as a group of people but rather a single individual, Saddam Hussein. The second 388 hypothesis was not supported. In both the House and Senate, legislators who opposed the 389 war measure were not more internally focused than those who supported it. As was stated 390 previously, this difference in results could be due to voting procedures or compositional 391 differences in the House and Senate. Finally, our third hypothesis was once again 392 consistently supported with the only caveat being the effect was slightly weaker than expected in the Senate. Those who supported the war measures showed less cognitive complexity than those who opposed them in both the House and Senate. 395

As a final test of our hypotheses, we examined the Congressional debate surrounding
U.S. involvement in Libya during its 2011 civil war. We might expect to find similar results
to Study 1 as, like the Kosovo war, there was less support for U.S. military involvement as
well as a lack of a perceived clear, immediate threat to the U.S.

## Study 3 - Libya in the House

In this final study, we examine the debate in the House of Representatives surrounding
U.S. military involvement in Libya during its revolution. In February 2011, a revolt against
Libyan dictator, Muammar Qaddafi, prompted the intervention of NATO when Qaddafi
violently suppressed all opposition. The involvement of NATO lead to debate within
Congress as to the exact role of the U.S. in military operations in Libya and the extent of
U.S involvement (Blanchard, 2011). In examining this debate, we wished to determine if the
language of those who supported or opposed military action was similar to those of either of
the first two studies.

Method

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In this final study, the Congressional Record was searched for speeches given in the 410 House of Representatives pertaining to the debate of the authorization of military action 411 against Libva in the three months before the vote on House Joint Resolution 68 on June 24, 412 2011. The bill failed in the House 123-295. All but 14 Republicans voted against the 413 resolution while 60% of Democrats supported the resolution. A total of 104 speeches were 414 collected representing 76 unique speakers. Democrats made 53 of these speeches while 51 415 speeches were made by Republicans. The average word count for these speeches was 465.93 416 (SD = 477.41). As the resolution failed in the House, it was not possible to examine this 417 debate in the Senate. Five speeches were excluded for no voting record.

419 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. These results are displayed in Figure 3 as a forest plot and in Table 4. For

Hypotheses 1 and 2, the effects were in the hypothesized direction, but magnitude of the
effects were much weaker than hypothesized. Hypothesis 3 was most strongly supported with
an effect size in the right direction and nearly as strong as hypothesized.

426 Discussion

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The relatively small sample size limited the power of the study, but trends in each case
were in the hypothesized direction, although the results were weak. In addition to potentially
limited power, our finding from Studies 1 and 3 could indicate that in situations where there
is less Congressional support for military action and no clear, immediate threat to the U.S.,
the difference between support and opposition for military action is not a matter of
attentional focus but rather other social and political forces.

## General Discussion

Across all three studies, we found consistent evidence that supporters of war measures 434 show less cognitive complexity in their speeches than those on the opposing side (Hypothesis 435 3) replicating part of the Matsumoto et al. (2015) study. When it comes to consideration of 436 aggressive acts like war, our studies would suggest that legislators (at least in the U.S.) 437 reason similarly to the executive leaders analyzed by Matsumoto et al. (2015) though our 438 findings suggest the effect may be slightly weaker among legislators. Political figures in favor of aggressive measures seek to simplify the debate whereas those against aggressive measure may seek to consider the issue more deeply. Whether the decreased cognitive complexity 441 before aggression is a rhetorical strategy, ideological beliefs, cognitive style, or some other factor is worth further investigation. 443

Our hypotheses regarding internal and external focus were not consistently supported. Strong support for Hypothesis 1 was found only in the case of the debate around the Iraq

War. Weak support was found in the debates around Kosovo and Libya in the House.

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

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

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

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

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

for reasons other than aggression such as to support the president's agenda weakening or

reversing the hypothesized effect.

Hypothesis 2 received the weakest, most inconsistent support of any of our hypotheses with strong evidence for the effect found only in the Senate debate of the Kosovo resolution failing to replicate Abe (2012). Unlike Hypotheses 1 and 3 which are at least partially based in Matsumoto et al. (2015)'s study of executive, Hypothesis 2 is solely based in Abe (2012)'s study of the war 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 weak support for Matsumoto et al. (2015) is due to changes 461 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. 463 Historically, the U.S. would declare war on another nation (i.e., fighting the Germans in 464 WWI). In WWII, a slight shift occurred where the U.S. was fighting not only another nation 465 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 470 no official, recognized government or nation with which to negotiate (Matthews, 2014). 471

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.

#### 479 Limitations

The sample and methods used in the study, while useful, can also be somewhat limited 480 in scope. First, even though the Congressional Record represents everything said on the floor 481 of Congress, it does not necessarily represent the entirety of Congress. Our sample 482 incorporates nearly 15 years in Congress. This time period encompassed seven election cycles 483 and at any given time, there are 100 senators and 435 congressmen and women. While our 484 data set likely included speeches from the more influential senators and congressmen and 485 women, we cannot predict voting from those who did not speak. Furthermore, our findings regarding masculine versus feminine pronouns could be confounded by the 487 under-representation of women in Congress. In the 113th Congress, women comprised 20% 488 of the Senate and 18% of the House (Manning & Brudnick, 2014). For the years of voting 489 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, 493 though it does fail to take into account context, sarcasm, and other subtle aspects of 494 language. 495

#### 496 Future Directions

While we were unable to completely replicate the previous studies, the method used has 497 great potential for replicating past work on political behaviors and attitudes in a legislative 498 context as well as enhancing the understanding of legislative decision making. We examined 499 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 501 where there is recurrent debate. Furthermore, our investigation was limited to studying 502 attentional focus and cognitive complexity, but with LIWC2015 or other language analysis 503 methods, future research could examine thinking style, emotionality, authenticity, cognitive 504 processing, or any number of other psychological constructs. When it comes to politics there 505 is no lack of political language, making language analysis a powerful tool for political 506 psychology, especially when combined with other behavioral data such as voting records. 507

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Table 1
Summary of Voting Record by Chamber, Political Party, and Area of Conflict

Study	Conflict	Chamber	# Speeches	Yay Votes	Nay Votes	Yay Dems	Yay Reps	Outcome
1A	Kosovo	House	210.00	213.00	213.00	86%	16%	Failed
1B	Kosovo	Senate	49.00	58.00	41.00	93%	30%	Passed
2A	Iraq	House	274.00	296.00	133.00	40%	97%	Passed
2B	Iraq	Senate	138.00	77.00	23.00	58%	98%	Passed
3	Libya	House	104.00	123.00	295.00	60%	6%	Failed

Table 2  $Descriptive\ statistics\ for\ each\ dependent\ variable\ by\ chamber\ for\ Kosovo$ 

Chamber	Hypothesis	DV	$M_O$	$SD_O$	$M_S$	$SD_S$	$d_s$	$d_s$ LL	$d_s$ UL
House	1	She/He	0.52	0.70	0.55	0.90	-0.04	-0.31	0.24
House	1	They	0.64	0.73	0.79	1.16	-0.15	-0.42	0.13
House	1	External	1.17	1.14	1.34	1.37	-0.13	-0.41	0.14
Senate	1	She/He	0.46	0.87	0.49	0.41	-0.04	-0.61	0.52
Senate	1	They	0.81	0.72	0.53	0.42	0.48	-0.10	1.04
Senate	1	External	1.27	1.30	1.03	0.56	0.24	-0.32	0.80
House	2	I	1.86	1.39	2.32	1.96	-0.27	-0.55	0.01
House	2	We	3.12	2.04	2.94	2.61	0.07	-0.20	0.35
House	2	Internal	4.99	2.48	5.27	3.35	-0.10	-0.37	0.18
Senate	2	I	2.21	1.34	1.99	2.07	0.12	-0.44	0.68
Senate	2	We	3.12	2.06	1.53	0.63	1.07	0.46	1.67
Senate	2	Internal	5.32	2.50	3.54	2.25	0.75	0.17	1.33
House	3	Complexity	0.59	3.21	-0.46	3.92	0.29	0.02	0.57
Senate	3	Complexity	1.67	3.91	-1.54	3.21	0.90	0.31	1.49

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

Table 3

Descriptive statistics for each dependent variable by chamber for Iraq

Chamber	Region	DV	$M_O$	$SD_O$	$M_S$	$SD_S$	$d_s$	$d_s$ LL	$d_s$ UL
House	1	She/He	0.56	0.67	1.17	1.14	-0.63	-0.87	-0.38
House	1	They	0.46	0.61	0.55	0.72	-0.13	-0.37	0.11
House	1	External	1.02	0.96	1.71	1.33	-0.58	-0.82	-0.33
Senate	1	She/He	0.60	0.57	1.20	0.79	-0.83	-1.20	-0.45
Senate	1	They	0.48	0.40	0.56	0.51	-0.16	-0.53	0.20
Senate	1	External	1.08	0.71	1.76	1.00	-0.73	-1.11	-0.36
House	2	I	1.66	1.62	1.84	1.44	-0.11	-0.36	0.13
House	2	We	3.00	1.98	2.76	1.71	0.13	-0.11	0.37
House	2	Internal	4.66	2.44	4.60	2.27	0.03	-0.21	0.27
Senate	2	I	1.98	1.49	1.98	1.91	0.00	-0.37	0.36
Senate	2	We	2.54	1.20	2.62	1.41	-0.06	-0.42	0.31
Senate	2	Internal	4.52	1.79	4.61	2.21	-0.04	-0.41	0.32
House	3	Complexity	0.70	3.64	-0.57	3.37	0.37	0.12	0.61
Senate	3	Complexity	0.29	3.89	-0.17	3.75	0.12	-0.24	0.49

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

Table 4

Descriptive statistics for each dependent variable by chamber for Libya

Chamber	Region	DV	$M_O$	$SD_O$	$M_S$	$SD_S$	$d_s$	$d_s$ LL	$d_s$ UL
House	1	She/He	0.60	0.97	0.64	1.04	-0.04	-0.46	0.38
House	1	They	0.60	1.08	0.62	0.84	-0.01	-0.43	0.40
House	1	External	1.21	1.62	1.26	1.48	-0.03	-0.45	0.38
House	2	I	2.42	1.97	2.32	1.42	0.06	-0.36	0.48
House	2	We	2.95	1.66	2.89	2.30	0.03	-0.38	0.45
House	2	Internal	5.35	2.13	5.20	2.54	0.06	-0.35	0.48
House	3	Complexity	0.36	3.91	-0.78	3.83	0.29	-0.13	0.71

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

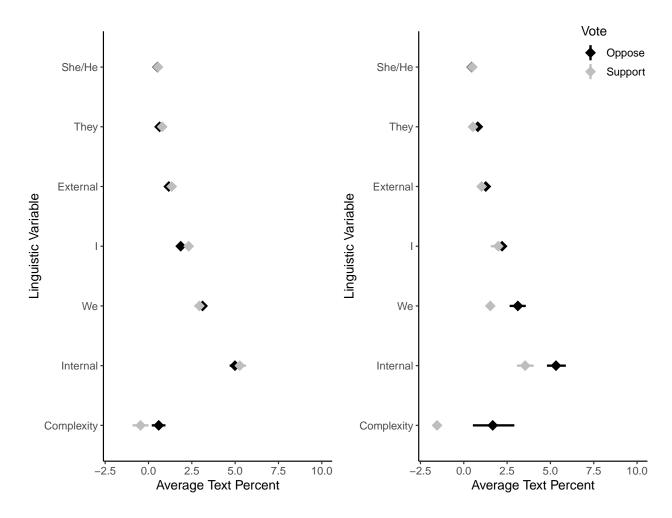


Figure 1. House (left) and Senate (right) bootstrapped means and 95% confidence interval of each linguistic category for Kosovo. Complexity is z-scored, and therefore, can be negative.

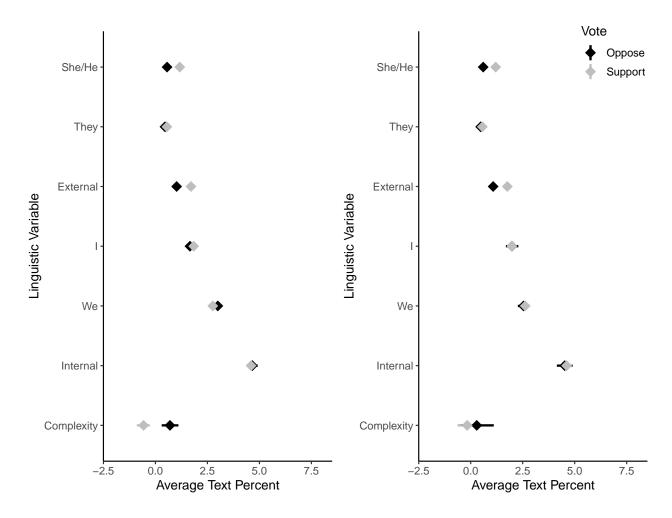


Figure 2. House (left) and Senate (right) bootstrapped means and 95% confidence interval of each linguistic category for Iraq. Complexity is Z-scored and can include negative values.

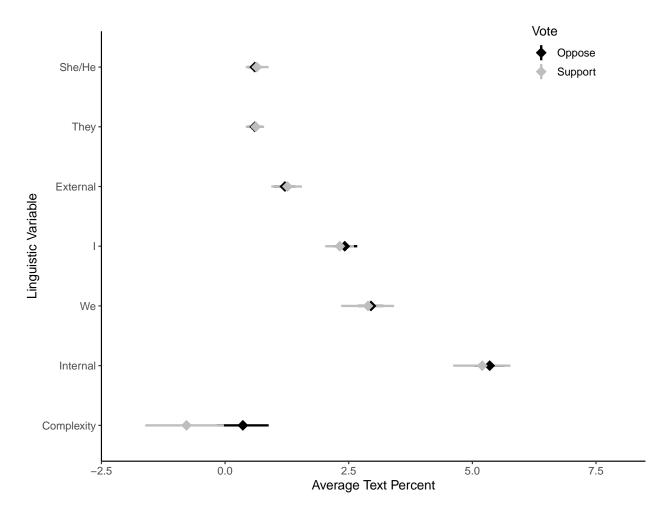


Figure 3. House (left) and Senate (right) bootstrapped means and 95% confidence interval of each linguistic category for Libya. Complexity is Z-scored and can therefore be negative.