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BIOGRAPHY

Lauren Lucente is a fourth year undergraduate student at Case Western Reserve University majoring in Cognitive Science, with minors in Italian and Chemistry. Upon graduation, Lauren will be attending medical school and is hoping to pursue a career in emergency medicine that focuses on combating inequality in health education.

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Abstract

The present study uses the full transcripts of the presidential campaign announcement speeches of Hillary Clinton, Bernie Sanders, and Donald Trump for analysis of context-dependent force dynamic usage. To do this, six closed-class elements (*Must*, *Can*, *Have To*, *Shall*, *Should*, and *May*) and three open-class elements (*Obstacle*, *Struggle*, and *Challenge*) were identified for this study. The instances of use were recorded because it has been shown that these specific elements are used frequently in force dynamic-containing sentences. The instances and frequencies of use for each element were recorded, along with the context in which they were used to facilitate the determination of a correlation between context and frequency of force dynamics. This correlation could not be drawn from the comparison within the presidential campaign announcement speeches. However, the fact that the frequency of force dynamics in Clinton's ISIS speech was more than double that of her presidential campaign announcement speech led this study to conclude that there is a correlation between context and frequency of force dynamic use. This conclusion was further supported by the comparison of the frequencies of force dynamics in the speech topics, 'Attack on Opponent' and 'Military' in the debate transcript. It is also likely that personality, gender, and type of speech affect force dynamics use, but a concrete conclusion confirming this claim could not be reached.

Introduction

Force Dynamics, defined by the linguist Leonard Talmy (2000) as the way that "entities interact with respect to force," are so embedded in our language that we often fail to recognize when we use them (p. 409). Force dynamics permeates both closed-classed grammar structure and open-class lexical semantics. Our schemas and mental spaces are structured, in part, by force dynamics, thereby influencing our understanding of the world and these 'entities' (Talmy, 2000). The force dynamics that exist in English can be separated into eight categories: Causative, Weak Despite, Strong Despite, Causative Hindrance, Onset Causation, Onset Letting, Shifting Balance of Strength, and Extended Letting (Talmy, 2000). While some instances of force dynamics can fall into more than one of these categories, all instances of force dynamics exhibit characteristics that place them into at least one of these categories.

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Examples of force dynamics usage.

For example, the following sentence exhibits the Strong Despite category of force dynamics: 'The wind was so strong that it blew the picnic table into the neighbor's yard.'

In the above sentence, the agonist (the focal object of the sentence that has an intrinsic force tendency) is the 'picnic table', and its intrinsic force tendency is to remain in the same spot. The antagonist (the force element that imposes force on the agonist) is the 'wind' and it works against the tendency of 'picnic table' to remain in the same spot and tries to move it. In this example, the antagonist (wind) is stronger than the agonist (picnic table) and it overcomes the agonist's intrinsic tendency to remain in the same spot, thereby moving it 'into the neighbor's yard.'

As stated above, force dynamics exist in both and open and closed-class elements. The category of open-class elements commonly accepts new words and consists mainly of

nouns, adjectives, and adverbs while the category of closed-class elements rarely accepts new words and consists mainly of prepositions, pronouns, and modal verbs. Modal verbs indicate the likelihood, ability, permission, and obligation of an action and commonality (Palmer, 2001). The following sentence exhibits the use of open and closed-class in a sentence containing force dynamics: 'We must overcome this struggle.' In this sentence, the agonist is 'we', with an intrinsic force tendency to not overcome the 'struggle', and the antagonist is the need to overcome the struggle. The need to overcome the struggle is greater than the intrinsic tendency to not overcome the struggle. 'Struggle' is a common open-class element that is easily accommodated into force dynamics and "must" is an example of a modal verb, a type of verb commonly is used in force dynamics that is associated with compulsion.

This study will use modal verbs and several force dynamic-encoded nouns to analyze the frequency of force dynamics. Political speeches were chosen as the subject material for this analysis, because it has been shown that force dynamics are prevalent in political discourse and aid in rhetoric and persuasion (Oakley, 2005).

Methods

In order to determine the correlation between force dynamic frequency of use and context, four political speeches and one debate transcript were analyzed. The full transcripts of presidential campaign announcement speeches given by Hillary Clinton, Bernie Sanders, and Donald Trump, a speech on the topic of ISIS given by Hillary Clinton, and the transcript of the second presidential debate. The presidential campaign announcement speeches were chosen because they cover a variety of topics, and it was hypothesized that this variety would aid in determining the existence of a correlation between context and frequency of force dynamic usage, providing a baseline usage with which to compare other speeches. The transcripts of these three speeches were available in their entirety on Time.com. Each speech by Hillary Clinton, Bernie Sanders, and Donald Trump was chosen for analysis and comparison, because each political candidate has a markedly different personality and varying political experiences, occupations, and titles. These factors are hypothesized to lead to differences in each candidate's use of force dynamics.

"Clinton's speech on ISIS was then compared to her presidential campaign announcement speech in order to further analyze the speeches for a correlation b etween the frequency of force dynamic use and context."

A full transcript of a speech given by Hillary Clinton on the topic of ISIS was also chosen for analysis. Clinton's speech on ISIS was then compared to her presidential campaign announcement speech to further analyze the speeches for a correlation between the frequency of force dynamic use and the context. The topic of ISIS was chosen for comparison because this topic revolves almost exclusively along the similar topics of Military and International Relations. This speech was also compared with the other presidential campaign announcement speeches, which cover a variety of topics, in order to see if the frequency of force dynamics is also related to personality, as well as the context. It is hypothesized that the use of force dynamics is correlated, to some extent, with both context and personality.

Lastly, the transcript of the second presidential debate was used to further analyze the relationship between use of

Table 1. Every context category used in the initial determination and analysis was then grouped into more general categories to aid in further analysis. Eleven categories were created to accommodate all the subcategories. An instance was labeled "undetermined" when the context of its use could not be determined.

List and decomposition of context categories

Category	Subcategories
Military	ISIS, War, National Security,
Medical System	Obamacare, Medicare,
Personal Reflection	Leadership Qualities, Personal Reflection
Economy	Economy, Free Trade, Poverty
International Relations	International Policy, Immigration,
Education	Education,
Equal Rights	Diversity, Women's Rights, LGBT Rights, Equal Opportunity
Government Reform	Government Reform, Political divide, Special Interest Groups/Campaign Spending,
Government Sponsored Services	Work Benefits, Senior Services, Raising Minimum wage, Infrastructure, America's Future,
Environmental Policy	Global Warming, Clean Energy,
Undetermined	Undetermined

force dynamics and context of the speech. Because the presidential candidates were asked questions on similar topics by the moderator, the context of each response should be parallel to the response of the other candidate. It is predicted that the structure of the debate should assist primarily with examining the relationship between force dynamics and context and with examining the difference in use of force dynamics between the two candidates. It should be noted that only responses that were greater than four sentences in length were used in the analysis because it was determined that any response less than four sentences caused an ambiguity in the context of the response.

Categorization of force dynamic terms.

In order to analyze the use and frequency of force dynamics in these speeches, several close and open-class elements were chosen for analysis. Their frequency and the context in which they were used was recorded and used for analysis and comparison. Three open-class elements were selected for use: Struggle, Obstacle, and Challenge. These words were chosen because they encode for force dynamics, meaning they are often used in force dynamic-containing sentences (Talmy, 2000). Although it was expected that these open-class words would not be used heavily, they have been included in the analysis for the sake of presenting a more complete picture of force dynamics. Six closed-class elements were selected for use: Should, Must, Can, Have to, May, and Shall. All of these closed-class elements fall into the category of modal verbs and were chosen because modal verbs are the most commonly used closed-class element in force dynamic sentences (Talmy, 2000; Palmer, 2001; Bybee et al., 1994).

Special case of the modal verb 'Have to.'

It should be noted that one of the modal verbs chosen, specifically Have To, is considered to be "quasi-modal" because it takes on an inflection for person and number (Lakoff, 1972). For example, it is grammatically correct

to use 'has to' when talking in the 3rd person singular, but, for the every other person and number combination, it is correct to use 'have to.' By contrast, Can, a 'true modal' verb, remains 'can' regardless of person and number. Additionally, Have To is considered a quasi-modal verb because, unlike 'true modal' verbs, it can be followed by an infinitive main verb. Even though Have To is technically not considered to be one of the one true modal verbs, it is considered to be a "perfect semantic equivalent" of one of the true modal verbs (Lakoff, 1972; Westney, 1995). Lakoff (1972) explains that these quasi-modal verbs are semantically equivalent and can, therefore, be treated the same as the true modal verbs, so the present study will consider Have To to be a true modal verb during the analysis of the speeches. The remaining five modal verbs chosen for the present study are considered true modal verbs.

Categorization of contexts.

To carry out this study, every instance of the above-mentioned open and closed-class element was recorded for each speech transcript along with the context in which it was spoken. Each instance of each element was sorted into one of the following 11 categories to describe the context of use: Military, Medical System, Personal Reflection, Economy, International Relations, Education, Equal Rights, Government Reform, Government Sponsored Services, Environmental Policy, and Undetermined. As Shown in Table 1, several sub categories were grouped together to form these larger, more general categories. The categories listed were chosen based of the categories of political speech presented in Quin et al. (2010), but they were modified so that fewer, more general categories could be used in the analysis of the present study. For each speech, the frequencies for each open and closed-class word was sorted by general category and compared to the other open and closed-class words and to the data from the other speeches. Lastly, it is important to recognize that the statistics on the open-class word frequency for the debate transcript is not presented due to a lack of the selected for open-class words in the transcript. It should also be noted that, for the debate transcript analysis, the Undetermined category was not needed, and a category for Attack on Opponent was added due to the necessity for that category in the debate transcript, but not in the other speeches.

Results

The calculated frequencies of the nine selected open and closed-class elements (Struggle, Obstacle, Challenge, Should, Must, Can, Have to, May, and Shall) vary between each person, with Clinton using more elements in her presidential campaign announcement speech than both Sanders and Trump (Table 2). The frequency of force dynamic use doubles in Clinton's ISIS speech compared to her presidential campaign announcement speech, and her ISIS speech has a frequency of use that is more than three times that of Trump's presidential campaign announcement speech.

Table 2. The frequency of the selected for open and closed-class elements within each speech. These values were calculated by dividing the total number of occurrences divided by the total word count.

Frequencies of open and closed elements

Speech	Clinton Announcement	Trump Announcement	Sanders Announcement	Clinton ISIS	Clinton Debate	Trump Debate
Total Instances (Instances/total word count)	1.09%	0.69%	0.91%	2.20%	0.69%	0.59%

Additionally, although both Clinton and Trump had approximately the same frequency of closed-class elements in their debate transcripts, there is some variance in the frequency used in each context. Both candidates have a higher frequency of force dynamic use in the Military and Personal Attack categories. While statistical analysis would need to be performed in order to confirm that these results are significant and can be used to make generalizations, the data yields results useful for making inferences about the individuals whose speeches are analyzed. Furthermore, the differences in frequency and use of force dynamics vary enough to warrant attention and further exploration.

The data indicate that Donald Trump's presidential campaign announcement speech has the lowest frequency of force dynamic use most of which occurred in the context of the categories of Personal Reflection, Government Sponsored Services, Undetermined, and the Medical System. Sanders and Clinton had the highest frequencies in different context categories than each other and from Trump. Clinton's highest frequencies occurred in the categories of Government Sponsored Services, Economy, Free Trade, Poverty, Undetermined, and Equal Rights, while Sanders's highest frequencies occurred in Government Sponsored Services, Military, Global Warming, Clean Energy, Government Reform, and Education (Table 3).

"The data indicate that Donald Trump's presidential campaign announcement speech has the lowest frequency of force dynamic use most of which occurred in the context of the categories of Personal Reflection, Government Sponsored Services, Undetermined, and the Medical System."

While some contexts tend to lend themselves to force dynamics (such as Military), the variation observed is great enough that no clear conclusion can be drawn from the data from the presidential campaign speeches (Talmy, 2000). Although the categories of Government Reform and Government Sponsored Services consistently demonstrated higher frequencies of force dynamic use, this may be explained by the length at which they were discussed. All three political candidates' platforms highlight government reform even if their ideas of how to do that differs significantly, and each political candidate spent a significant amount of time talking about that issue. The difference in the amount of time spent discussing these issues merits the higher force dynamic frequencies seen in these contexts.

To ensure a successful speech, the candidates must discuss in depth the issues around which they base their campaign platform and the issues they know the public wants to hear. When the data is analyzed from this perspective, the discrepancy in frequencies between topics is to be expected. Clinton, as a long-time supporter of equal rights, would be expected to spend more time discussing them and, therefore, have a higher frequency on that topic than the other candidates. Sanders focuses on environmental policy, while Trump and Clinton mention that little, so it follows that Sanders would have a higher frequency in environmental policy than Clinton and Trump (Table 3). Trump, having held no political office experience, may have felt the need to talk more about himself in an attempt to justify his decision to run for president and his qualifications for the job (Fallows, 2015). Clinton and Sanders, having been involved in politics for decades, would not need to justify themselves in this way, so therefore they had a significantly lower frequency in the personal reflection context category.

The hope in analyzing the presidential

Table 3. Relative frequencies of the predetermined open and closed-class elements for the presidential campaign announcement speeches by the context in which each instance was used. The percent frequencies were calculated by dividing the number of instances for each context category by the total number of instances and multiplying by 100.

Relative frequencies of open and closed class force dynamic usage

Category	Subcategories	Trump	Sanders	Clinton
Military	ISIS, War, National Security	11.36%	16.13%	1.96%
Medical System	Obamacare, Medicare	13.64%	6.45%	1.96%
Personal Reflection	Leadership Qualities, Personal Reflection	20.45%	0%	3.92%
Economy	Economy, Free Trade, Poverty	4.55%	6.45%	15.69%
International Relations	International Policy, Immigration	2.27%	0%	5.88%
Education	Education	4.55%	12.90%	9.80%
Equal Rights	Diversity, Women's Rights, LGBT Rights, Equal Opportunity	0%	3.23%	13.73%
Government Reform	Government Reform, Political divide, Special Interest Groups/Campaign Spending	11.36%	12.90%	9.80%
Government Sponsored Services	Work Benefits, Senior Services, Raising Minimum wage, Infrastructure, America Future	15.91%	29.03%	21.57%
Environmental Policy	Global Warming, Clean Energy	0%	12.90%	0%
Undetermined	Undetermined	15.91%	0%	15.69%

Table 4. The frequency of each selected element in the Clinton ISIS speech and Clinton presidential campaign announcement speech. Frequencies are higher for every element in the ISIS speech besides *Can* and *May*.

Frequencies of force dynamic use in Clinton ISIS and campaign announcement speeches

Clinton ISIS Speech		Clinton Campaign Announcement Speech	
Word	Frequency (occurrence per word)	Word	Frequency (occurrence per word)
Should	28/4268 = 0.66%	Should	13/4687 = 0.28%
Must	14/4268 = 0.32%	Must	3/4687 = 0.06%
Have To	20/4268 = 0.47%	Have To	8/4687 = 0.17%
Can	16/4268 = 0.37%	Can	19/4687 = 0.41%
May	3/4268 = 0.07%	May	4/4687 = 0.09%
Shall	0/4268 = 0.00%	Shall	0/4687 = 0.00%
Struggle	5/4268 = 0.12%	Struggle	1/4687 = 0.02%
Challenge	5/4268 = 0.12%	Challenge	3/4687 = 0.06%
Obstacle	3/4268 = 0.07%	Obstacle	0/4687 = 0.00%

campaign announcement speeches was that their varied topics would help determine a correlation between usage frequency of force dynamics and context. As explained above, these conclusions cannot be drawn from only looking at the presidential campaign announcement speeches. However, they did provide a good baseline for force dynamics with which to use for comparison with the other texts analyzed. The Clinton speech on ISIS was also analyzed and, from the comparison of Clinton's presidential campaign announcement speech and her ISIS speech, the study is able to draw some conclusions about the relationship of context and use of force dynamics. Looking at Table 2, Clinton's speech on the topic of ISIS clearly has a higher frequency of force dynamic use than her presidential campaign announcement speech. In fact, the frequencies of every specific element, besides Can and May, were higher in the ISIS speech than her presidential campaign announcement speech. The differences in frequencies of Can and May between speeches varied by less than 0.05% while the frequencies of Should and Must are 0.38% and 0.26% higher, respectively, in the ISIS speech (Table 4).

The higher frequencies in the ISIS speech are understandable because, as stated above, the topic of military, or war, encodes for force dynamics easily (Talmy, 2000). War involves many actions and the interaction of opposing forces, so it makes sense that a speech about war/ISIS/military would use many force dynamic-containing sentences. The fact that the frequency doubles between Clinton's presidential campaign announcement speech and her speech on ISIS supports a correlation between context and frequency of force dynamics. Taking a closer look at the frequencies of each specific element in Clinton's presidential campaign announcement speech and her speech on ISIS, one can see that the frequencies of Must and Have To more than triple in the ISIS speech. This is probably due to both the context and the nature of the speech. ISIS is a topic with which the American public is very concerned, so Clinton most likely used these more forceful modal verbs to sound strong and convince the American public to trust her leadership and her ability to keep Americans safe. As stated by Oakley (2005), force dynamics play an important role in persuasion and rhetoric. Many Americans are fearful of ISIS and its animosity towards America, so it would be in Clinton's interest to use more force dynamic sentences in the attempt to be persuasive in reassuring the American people of her plan for how to deal with ISIS.

The higher frequency levels for the open-class words in the ISIS paper are also notable (Table 4). While use of Struggle and Obstacle were practically non-existent in Clinton's presidential campaign announcement speech, and with Challenge only having three occurrences in the same speech, Clinton uses these words a total of 13 times in her ISIS speech. Considering that none of the presidential campaign announcement speeches contain many instances of the selected open-class elements, it may be that context more strongly influences the use of force dynamic encoded open-class elements compared to closed-class elements. However, due to the fact that both open and closed-class elements greatly increased in frequency of use and the fact that formal statistical analysis was not performed, it cannot be concluded that open-class force dynamic elements are more strongly influenced by context than closed-class elements.

Although Table 2 appears to suggest a correlation between personality and frequency of force dynamic use, the above conclusions about the correlation of context and force dynamic use make it more unlikely. The difference in context and amount of time spent on a specific topic makes it impossible to draw a definite conclusion about personality and frequency of force dynamics. However, when looking at the data, one can see that each politician favors the use

Table 5. The frequencies for each selected word in each candidate's presidential campaign announcement speech and for the second presidential debate transcript The frequency was calculated by the (number of instances/total word count) x 100%.

Frequencies of word usage by speech and candidate

	Presidential Campaign Announcement			Second Presidential Debate	
Word	Clinton	Sanders	Trump	Clinton	Trump
Should	0.28%	0.06%	0.03 %	0.12%	0.10%
Must	0.06%	0.38%	0.00 %	0.02%	0.00%
Have To	0.17%	0.09%	0.30 %	0.16%	0.32%
Can	0.41%	0.29%	0.35 %	0.40%	0.18%
May	0.09%	0.03%	0.02 %	0.00%	0.00%
Shall	0.00%	0.00%	0.00 %	0.00%	0.00%
Struggle	0.02%	0.03%	0.00 %	0.00%	0.00%
Challenge	0.06%	0.03%	0.00 %	0.00%	0.00%
Obstacle	0.00%	0.00%	0.00 %	0.00%	0.00%

Table 6. The relative frequencies of the predetermined closed-class elements for each presidential candidate in the debate transcript are organized here by the context in which each instance was used. The percent frequencies were calculated by the (number of instances for this context category/total number of instances used for each candidate) x 100%.

Relative Frequencies of Usage of Force Dynamics

Category	Subcategories	Trump	Clinton
Military	ISIS, War, National Security	21.62%	12.50%
Medical System	Obamacare, Medicare	8.11%	10.00%
Personal Reflection	Leadership Qualities, Personal Reflection, Vision for America	5.41%	37.50%
Economy	Economy, Free Trade, Poverty, Taxes	10.81%	2.50%
International Relations	International Policy, Immigration	0.00%	7.50%
Education	Education	2.70%	0.00%
Equal Rights	Diversity, Women's Rights, LGBT Rights, Equal Opportunity	0.00%	7.50%
Government Reform	Government Reform, Political divide, Special Interest Groups/Campaign Spending	0.00%	0.00%
Government Sponsored Services	Work Benefits, Senior Services, Raising Minimum wage, Infrastructure, America's Future,	2.70%	5.00%
Environmental Policy	Global Warming, Clean Energy	8.11%	2.50%
Attack on Opponent	Personal Attack, Policy Critique	40.54%	15.00%

of certain close-classed words (Table 5). For example, Trump uses Have To most often and does not use Must at all while Sanders used Must more than any other selected close-classed element. It may not be reasonable to definitively conclude from this data that there is a correlation between personality and force dynamic frequencies, but the data does indicate a correlation between personality and type of force dynamics used.

The debate transcript allows for further analysis of the relationship between context and force dynamic use. As shown by Table 5, both Clinton and Trump used Have To and Can at a higher frequency than any other modal verb, with Trump preferring to use Have To and Clinton preferring to use Can. These findings are fairly congruent with the frequencies found in the presidential campaign announcement speeches for Trump and Clinton. The frequencies for Have To and Can only vary by 0.01% percent between Clinton's campaign announcement speech and her portion of the debate. Although the Trump frequencies vary by more, it is clear that Have To and Can are the most heavily-used modal verbs for Trump. In addition to the possible effect of personal preferences for certain words, these results are most likely due to the fact that certain modal verbs are used very colloquially while others are not. For example, Have To, being semantically equivalent to Must, has, in part, replaced Must in common speech (Westney, 1995).

Additionally, it is telling that the overall use of force dynamics in the debate transcript is less than those of the presidential campaign announcement speech for each candidate. Clinton's debate transcript shows a decline of 0.40% in the frequency of force dynamic use, while Trump's debate transcript only shows a 0.10% in force dynamic frequency (Figure 2). The decline of the use of force dynamics is most likely due to the format differences that exist between a speech and a debate, but it is intriguing that Clinton's frequency declined much more than Trump's frequency. It is possible that this decline between the speeches and debate indicates that not only context, but also type of speech influences the use of force dynamics.

Although the 'Attack on Opponent' category was absent in the campaign announcement speeches, it is easy to see how force dynamics lend themselves well to attacking an opponent during a debate. Lakoff and Johnson (1980) have detailed extensively that part of the way we think is through metaphors. One common metaphor relevant to the setting of a debate is that 'Argument is War,' which explains that humans tend to think of an argument, or debate, in the context of two rival sides engaged in a confrontation, like a war (Lakoff & Johnson, 1980). Connecting the "Argument is War" metaphor, which applies to this debate setting, to the fact that the frequency of force dynamics is double for Clinton's ISIS speech compared to her campaign announcement speech, it makes sense that the Attack on Opponent category would not only be necessary, but would also have a higher frequency of force dynamic use. The higher frequency for these combative topics (ISIS and Attack on Opponent) lends further credibility to the claim that context has some influence on the frequency of force dynamic use.

"However, when looking at the data, one can see that each politician favors the use of certain close-classed words ... For example, Trump uses Have To most often and does not use Must at all while Sanders uses Must more than any other selected close-classed element."

Of course, the frequencies in Table 6 are highly dependent on the amount of time spent talking about each topic, but considering that a minority of total time was devoted to speaking about Military along with fact that each candidate shows a higher frequency of force dynamic use when discussing Military, Table 6 provides further evidence that context of speech influences the use of force dynamics. If the frequency for Attack on Opponent was adjusted for the amount of time spent speaking about it, then it would be likely that the frequencies for Attack on Opponent would be more comparable to the frequencies for Military. One could still consider that the high frequency of force dynamics in Attack on Opponent indicates a correlation between force dynamics and context, but the correlation might be confounded by a disproportionate amount of time being spent on the topic. Overall, the frequencies found for each topic of speech in the debate transcript also indicate that context of speech has some level influence on the use of force dynamics.

Discussion

The results of this study support a correlation between context and force dynamic frequency. The fact that Clinton's frequency of force dynamic elements was higher in her ISIS speech than in her presidential campaign announcement speech leaves that conclusion to be drawn. The higher frequencies in Military and Attack on Opponent in the debate transcript also support the theory that context of speech has some influence on the use of force dynamics. However, the results also show that each political candidate had high frequencies of force dynamics use in context categories other than Military, a topic into which Clinton's ISIS speech was focused. The data show Sanders having a high frequency in Government-sponsored Services while it shows Trump having a high frequency in Personal Reflection. It is predicted by this study that the time spent on a topic skewed these results, and that is why this contradiction is present in the data. However, because of this contradiction, more research needs to be done in order to see the strength of this correlation and what other factors could have lead to each candidate having higher frequencies in these context categories.

The use of force dynamics could also be influenced by personality. Trump's clear preference for using Have To in both of the excerpts analyzed, and Clinton's preference for using Can, indicate that there could be a link between personality and choice of which modal verb is used and prefered. It is true that both candidates hired speech writers to construct their speeches and that makes the speeches tougher to analyze for personality. However, each candidate has a public persona that the speech writers have to further reinforce in the speeches they write for that candidate, so speeches do offer at least some insight into the effect of personality on force dynamic use. It would be more telling to compare unscripted speeches or, at the least, compare the force dynamic use of each speech writer to determine if each speech writer has the candidate using force dynamics differently.

"...each candidate had a public persona that the speech writers have to further reinforce in the speeches they write for that candidate, so speeches do offer at least some insight into the effect of personality on force dynamic use."

Additionally, personality is partly shaped by one's experience, so it is likely that Clinton's personality, at least the personality that is shown to the public, has been shaped by the societal construction of gender and being a

woman in an occupation traditionally seen as masculine. Clinton's actions have been constrained and scrutinized in ways that Donald Trump, being a male, will never have to experience. It is possible that Clinton consistently exhibits a higher frequency of force dynamic use than Trump because she has to employ certain rhetoric techniques, which Trump does not, to seem as credible and strong as a male politician. It may have been in Clinton's best interest to use force dynamics at a higher frequency to sound more persuasive to the American people since it has been shown that force dynamics can improve persuasiveness (Oakley, 2005). However, any indication of these effects are rather weak in the present study. Further research needs to be done in order to better analyze the influence of personality and gender on frequency of force dynamics.

Similarly, Clinton may have intentionally employed a more frequent use of force dynamics in her speech on the topic of ISIS in order to sound more persuasive to the public. Because Clinton probably wanted to seem strong and confident in order to make the American people feel safe, it is possible that the increase in frequency of force dynamics use in the ISIS speech is due to her wanting to seem more persuasive. Especially as a woman in an even more traditionally masculinized role such as Commander in Chief or some other military commander, Clinton may have used force dynamics at a higher rate to overcome the gendering of presidential roles. Additionally, Clinton could have sought persuasiveness in her presidential campaign announcement speech as she did in her ISIS speech, so it is possible that the need to be persuasive is not the only factor influencing Clinton's force dynamic use and that the results do show a correlation between context and frequency of force dynamic use.

Overall, the data indicate that there is some correlation between context of speech and the use of force dynamics. There is also some possible indication that personality also affects the choice of close-classed element and the frequency of force dynamics, however, more research must be done in order to explore this relationship. It is important to keep in mind how sensitive the data presented in this paper is to the amount of time spent talking about each subject. However, regardless of its sensitivity, some of the clear comparisons above support the conclusion that context of speech influences the use of force dynamics.

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