Structured Topic Modeling for 2020 Candidates Likes and Dislikes - An Exploratory Analysis

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Abstract

In an effort to better develop topics with open-ended survey responses in the 2020 ANES data set. I look to explore using Structured Topic Modeling or STM and compare the effectiveness against a newly created LLM model using the same technology in Chat Gpt. Eventually, both will be compared against the gold standard human coding of topics. For the purposes of this analysis, I will examine the benefits and drawbacks of standard topic modeling and the respective outputs for a representative sample of candidate likes and dislikes; then, results from diagnostic criteria and a real STM model will be presented. Then, finally, the best attempt at efficient topic mapping will be presented. Finally, hand coding will be examined to measure the effectiveness of STM. Future pathways will be explored and discussed.

Introduction

From 1984 until 2004, the ANES, using human coders, identified the topic mentioned within an open-ended response. However, the quality of this data and expense led the ANES data collection team to develop a new plan to code these responses. In the 2008 election cycle, the ANES launched the "open-ended coding project" under the advisement of Jon Krosnick and David Lupia (Krosnick and Lupia, 2011 & 2012). This new project did a better job of hardcoding these responses; however, due to time constraints and funding limitations, the ANES has not

renewed this project and has, therefore, ceased to catalog quantitative data for open-ended responses.

2008 hardcoded data is the best attempt at human coding that was accomplished on ANES open-ended responses. Therefore, another group effort with Richard Lau and Barea Sinno is being conducted with that data. For this analysis, I will provide a companion evaluation of 2020. However, as we move forward, future years should be considered for us to run all three methodological approaches, such as the years 2012, 2016, and 2020. The issue is that the hand-coded responses are unavailable, and little agreement exists on a comprehensive list of topics. For the purposes of this evaluation, human coding by Rutgers University undergraduates will provide us with a dedicated representative sample for which to test the efficiency of STM.

Theory - Plan of Analysis - Evaluating hardcoded, STM, and LLM approaches

Fundamentally, researchers are left with several options and a massive amount of open-ended responses that have continued to pile up uncoded from 2012, 2016, and 2020. Therefore, I propose a new pathway integrating emerging technologies. Structured Topic Modeling (STM) has emerged as a recent methodology in which a computational model is run over several iterations and produces topics based on keywords or the stem of a word (Tingley et al., 2014). A key component of STM is that the operation pulls from a dictionary of words to pull topics from. Researchers often create a dictionary from clues from representative survey responses or frequency distributions of the most used words within the data set. Another approach is to let the model select words from the dataset and craft its dictionary; for this experimental project, I will integrate this automatic dictionary approach.

Once the gold standard hand-coded responses are captured and cleaned, and the STM model has completed its work, we can move to the third experimental approach. A novel model is currently under development using Large Language Modeling or LLM. Once implemented, we can test several impercial checks to compare the efficacy of STM and LLM vs the gold standard hand-coded data. Below is a table laying out the components of this project and their respective completion status.

Explanation of this project's methodological objectives and current status of each step
What this portion of the project seeks to accomplish is highlighted in GOLD.

	Handcoded data (Gold Standard)	STM	LLM
ANES 2008	Krosnick and Lupia cleaned and ready for use	Currently under development - Human-created dictionary in use	Waiting for STM to be complete. And still, in need of annotation rules,
ANES 2020	Hand coding of a mini set must be started from scratch.	Presented in this paper is the STM model with an automatically generated dictionary	Waiting for STM to be complete. And still in need of annotation rules

Room for further analysis from this initial model can be expanded such as innovative topic modeling approaches like keyword-assisted topic models (Eshima et al, 2020). Fundamentally, the goal of this project is to identify the strongest approach to code ANES open-ended responses on Candidate Likes and Dislikes from the 2020 election. The empirical measure will be accurate against gold-standard human-coded data. Quantitative outputs from each model will be provided to give the full accuracy measures. While the broad scope of this larger project is provided, for the purposes of this paper, I will examine only the STM model and provide critical insights into how this model performed on 2020 data.

Data and Methods

Random Selection - Gaining a representative sample

The first step in setting up our model was selecting the appropriate sample for our analysis. Selection of a representative sample is not necessarily an easy task; a balance must be struck between full answers and the representativeness of public opinion. In the structure of the ANES open-ended survey, respondents are asked four questions that are relevant to our evaluation.

- What do you like about Joe Biden?

- What do you dislike about Joe Biden?

- What do you like about Donald Trump?

- What do you dislike about Donald Trump?

For many respondents, there are only two valid answers to this question, indeed out of a population of 8,280, only 394 gave valid responses across all four questions. Most of the surveyed population answered two, for example, if they were a supporter of Donald Trump, a respondent could answer: "What do you like about Donald Trump" and "What do you dislike about Joe Biden". Therefore, our selection must be randomized across all four questions, given that many valid responses were provided per question. Given that each question had a relatively large sample and featured similar relative sizes, I proceeded to pull 200 of each question individually and then compiled back together the full sample of 800 responses. There are advantages and disadvantages to this selection approach, the first criticism would be the respective representativeness of who would be answering each question and with which frequency, however, given the limited nature of this set of 800 responses, full

representativeness likely can not be satisfied. While one of several approaches available, random selection on each question iduvudually provided the most efficient approach. Below is a table of each question's valid responses and where the random sample was gathered.

Table 2: Full Data and Sampled Data

	Dem Like		Dem Dislikes		Rep Likes		Rep Dislikes		Total	
Valid Responses	4,124	24.7%	3,898	23.4%	3,648	21.9%	5,007	30.0%	16,677	100%
Random Sample	200	25.0%	200	25.0%	200	25.0%	200	25.0%	8800	100%

*ANES 2020 Open Ended Responses, (-1, -9, N/A and Blank responses omitted) full set = 8,280

       A key benefit to exclusive selection for generating this representative sample is that the current full response sample does have a slight bias away from the Dem Dislikes/Rep Likes dyad composing (23.4% and 21.9%) respectively. With this approach, all 800 are equally weighted, and selection doesn't exactly follow the proportions of the full data. However, the selected data does come close to mirroring the full set.

Preprocessing for STM modeling - text cleaning, finding K, and covariate stabilization

       Structured topic modeling has many advantages and disadvantages. One critical advantage is the respective portability of the model. As long the processing capacity is fully used, the model can function using a couple hundred or several thousand textual data. Data, however, must be cleaned in several ways for the Structured Topic Model to function properly. First, the text must be extracted into a corpus, allowing the model to analyze the text together without stopwords and other impediments to full analysis. The documents are these critical

words, and given the extent of the documents, a vocabulary must be extracted. Following these steps is crucial because of limitations in data gathering or hindrances in the breadth of a vocabulary that will lead to incoherent topics. Some researchers chose to utilize a user-generated vocabulary, given the limitations in some responses. However, for this project, with the relatively large N in samples and distributions, I remain confident in a user-generated dictionary. Another preprocessing step is at what level the K in our model should be set. There is a wide variety of research on this question, but fundamentally, there are agreed-upon conventions to score the effectiveness of each topic level. Most important for our work are four diagnostic criteria: Held-out likelihood, Residuals, Semantic Coherence, and the lower bound. Each model tested will be held to these four criteria across a wide range of topic iterations and then a narrowed set of topic iterations.

The last important preprocessing step is the use of covariate stabilization on the model. This serves to ensure that the "bag of words" approach is fixed within parameters rather than truly scattershot. The packages with the STM diagnostics provide the best approach to enable these covariate stabilizations. For the purposes of our models, I will use several covariates in order to target our topics. They will be Party identification, Education level, ideology, government trust, and age. These covariates represent a mixture of both factor and numeric variables. Covariate stabilization will be utilized particularly in the sampled STM, given the ability for these stabilizations to help increase our coherence across topics for smaller sets. Covariates, in addition to the K-level diagnostics and the text-generated dictionary, give us the best chance of utilizing STM for topic modeling on these responses. Furthermore these

additional steps help improve STM's performance and can provide external validity when new models are piloted, such as an LLM approach.

Results

Given the flexible nature of our data availability and STM's operating power, I will pilot two models. The first will be on the representative sample already currently in the process of being human-coded (N=800), and the second will be gathered from the full set of responses (N=16,677). Below is a table highlighting the initial expectations of how models A and B will function with respect to the STM approach.
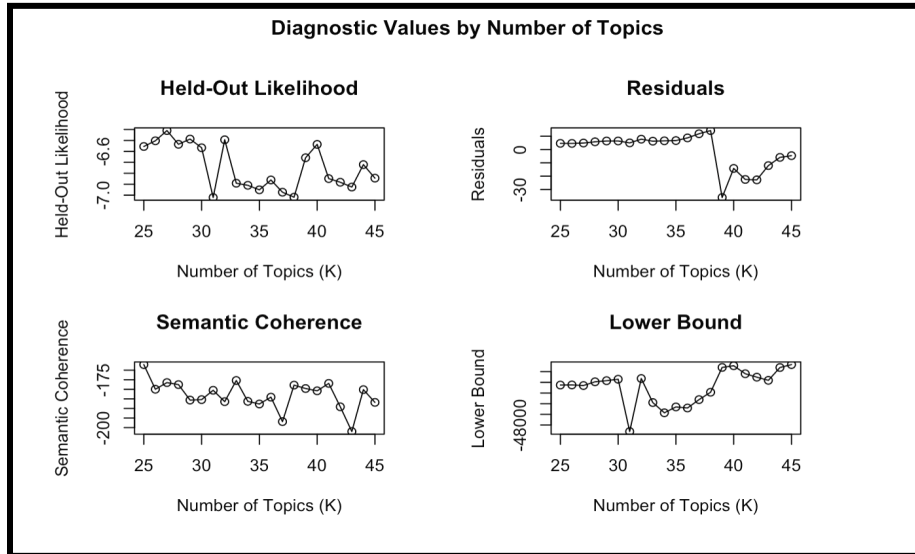
	Text Input (Before any STM cleaning
Model A	N= 800 sampled responses (200 for each question)
Model B	N= 16,611 valid responses (Full set across all four questions)

K Diagnostics For Model A

Following our parameters set out above, I processed the subset of data within model A through a diagnostic model to identify the best K level for the model to achieve peak performance. For model A, the N = 800, so critically, the vocabulary and covariates will help ensure this smaller model can perform better given the limited nature of responses. Below is a figure featuring the first diagnostic findings. For this initial wave, it's important to note that I followed a more comprehensive approach and tested K levels from 20 - 45. Once again, you will

find the four metrics for measuring the effectiveness of K-level performance: Held-out

likelihood, Residuals, Semantic Coherence, and the lower bound.

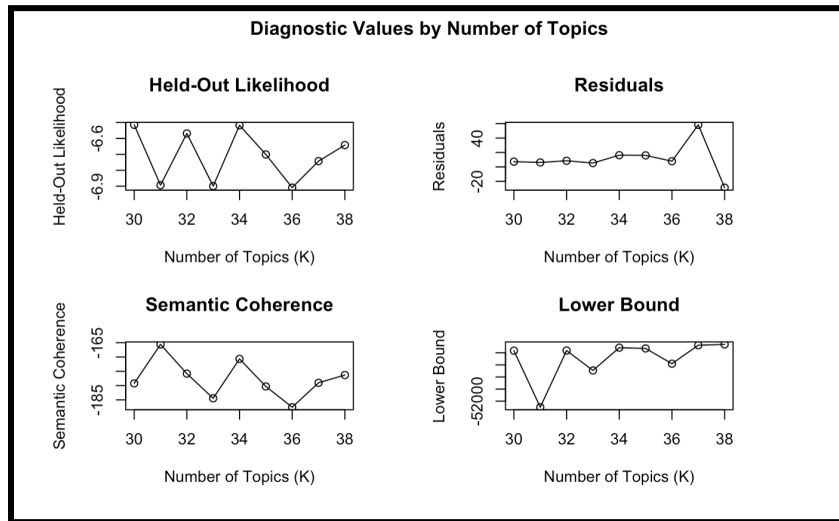## Figure 1: Finding K for Model A - 25 - 45:

To provide better nuance in how these diagnostic criteria work, I will provide a brief

explanation of each component. First **Held-out Likelihood**: This diagnostic measures how well

the model predicts unseen documents. To compute it, the dataset is divided into a training set

and a held-out set. The model is trained on the training set, and the held-out likelihood is

calculated on the held-out set. A higher held-out likelihood indicates a better model fit.

However, this measure alone can favor models with more topics, which might overfit the data.

Second **Residuals**: This refers to the difference between the observed term frequencies in the

documents and the term frequencies predicted by the model. Ideally, a good model should have

low residuals, meaning that the model can accurately capture the structure of the data. When

comparing models with different numbers of topics, one with systematically lower residuals

might be preferred. Third **Semantic Coherence**: This measures how much the top words of each

topic co-occur in the same documents. A higher semantic coherence suggests that the words within a topic are more meaningfully related to each other. Topics that are semantically coherent are easier to interpret. However, a model with very high coherence might be too focused on word co-occurrence and may not capture diverse aspects of the data well. And Lastly, **Lower Bound**: In variational inference, which is often used for estimating STM models, the lower bound (also known as the evidence lower bound or ELBO) is the lower bound on the log-likelihood of the observed data. It's an indicator of model fit; a higher lower bound suggests a better model. During model training, the lower bound should increase as the model parameters are optimized. If the lower bound decreases, it might indicate issues with model convergence or overfitting.

While other diagnostic models exist to inform where to set our K levels, these four metrics provide a snapshot view of what levels perform best to our expectations. Figure 1 presents data that is not completely comprehendible; therefore, I proceeded to re-run the model with a narrower focus. This model was set from 30 to 38 in order for us to evaluate the efficacy of each K level. Figure 2 represents the output from this analysis given the four critical diagnostic criteria. Given the outputs and diagnostics, once we have narrowed down our approach, I opted to set the K level at 33 and 38 topics, after topic mapping and cross-referencing outputs with other agreed-upon topic considerations. I will choose either 33 or 38. The topic coherence does seem to correlate with consolidated and semi-clear topics. With a clear comparison between this and gold-level topic sorting, we will compare the relative impact of this STM model.
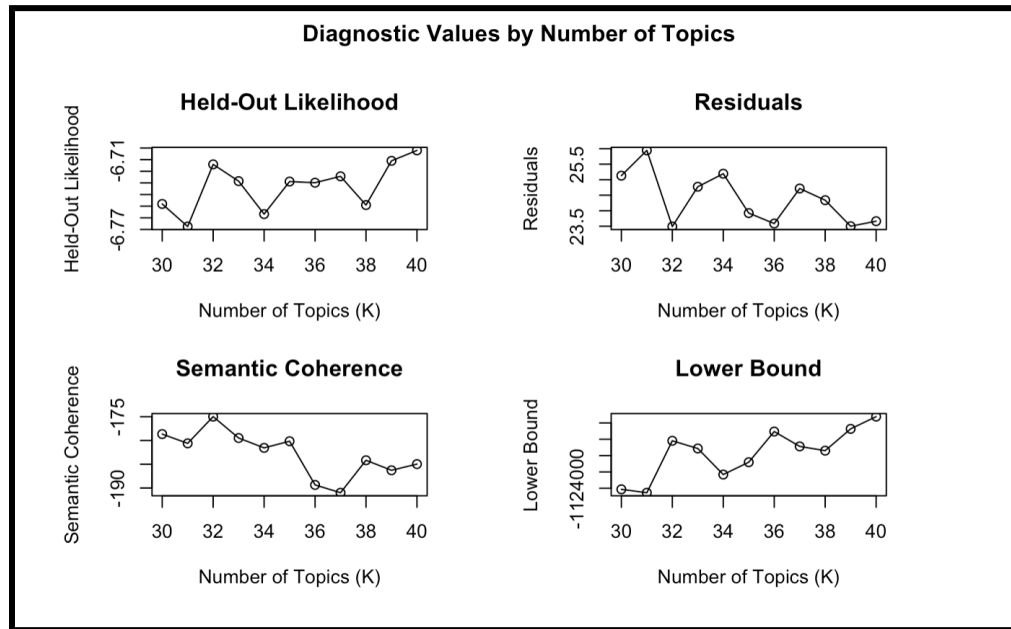
Figure 2: Finding K for Model A (Narrowed 30-38):

K Diagnostics for Model B:

Following the same approach for Model A I proceeded to run K diagnostics on Model B, which included the full set of over 16,000 responses in order to ensure we have developed the most coherent topics available within the limitations of STM. The initial K diagnostics were limited to 30 - 40, given the complexity of running the model on so many responses. Figure 3 Provides K Diagnostics for Model B. Given the results from this model, the K levels were set at 35 and 32. The STM output will follow in the appendix. The decision was made based on the best available data from the model output and meeting of our four criteria set out above. See results below

Figure 3: Finding K for Model B (Narrowed 30-40):

Discussion, Conclusion, and Next Steps

Models A and B have now concluded, and the full outputs are presented in this paper's appendix. The gold standard agreed upon topic scheme is also fully drafted and presented in this paper's Appendix. The first task is now to decide which model has done the best job of mapping cohesive and discernible topics, this is in a full comparison with the gold standard topic adapted from the 2008 open-ended coding project (Krosnick & Lupia, 2008). Once completed and models are set then corresponding gold standard topics must be reorganized in order to match compatibility with STM. The overall goal is to ensure that candidate likes and dislikes are coded effectively both via a machine learning process such as STM and also provided by human coders. Once cohesive agreement exists between these two databases then our model is able to

introduce the effectiveness of new automated topic modeling such as Keyword ATM and

eventually AI-generated approaches.

Another critical goal will be to finally extract quantitative outputs from the STM output. This will enable better comparisons between humans and machines. Additionally will provide an easy machine learning access sample of data to engage with future projects. The broader goal of developing a new approach to solve a longstanding problem in attempting to quantify open-ended responses provides us with both exciting new opportunities and additionally more quantitative knowledge to keep up with these cutting-edge methods. In utilizing the full suite of Standard Topic Modeling (STM), the critical goal is to take advantage of new approaches to build a better method for the future.

Replication materials are available at

Updated Model:> https://rpubs.com/geoquinn/1132532
https://rpubs.com/geoquinn/1132527

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Appendix A - Gold Standard Coding - Instructions for Human Coders and Agreed upon Gold Standard Topics

Project Summary:

Our objective is to code open-ended responses given in the 2020 presidential elections. For this particular element of the survey, 200 unique respondents were asked four questions.

- What is it that you **like** about **Joe Biden**
- What is it that you **dislike** about **Joe Biden**
- What is it that you **like** about **Donald Trump**
- What is it that you **dislike** about **Donald Trump**

For these responses, we are looking for what particular topics were mentioned among 35 agreed-upon topics. These topics are across all four questions, and a response can carry one or several topics depending on the particular response. Below is a table of all 35 topics, with the respective criteria for a topic to be satisfied

35 Topics for all four questions

#	Label	Annotation Criteria
1	General	Good person, bad person, likable, not likable, I like him, I do not like him - Any illusions to a general feeling toward a candidate
2	Party	Is (or is not) a Democrat, is (or is not) a member of the Democrat Party, is (or is not) a Republican, is (or is not) a member of the Republican Party, is (or is not)
3	Ideology / Philosophy / Views	Conservative, liberal, socialist, Marxist, communist, fascist, libertarian. Share my views, or I oppose his views
4	Electability	Can win, cannot win
5	Better than alternative	Not Trump, Not Biden, Lesser of two evils
6	Political experience	Political experience, work the candidate has done as a

		politician or elected official, "experienced" or "inexperienced" in general. Positive or negative.
7	Non Political experience	Business experience, work the candidate has done in business, industry, or education
8	Scandal / Cover-up	The candidate was involved in a scandal or cover-up
9	Other past activity	Any mention of something the candidate did in the past that does not match another code
10	Personality - Ability	The candidate's ability to accomplish a task or get the job done
11	Personality - Honesty	The candidate's honesty, integrity, consistency, predictability, sincerity, Truthfulness, character
12	Personality - Intelligence	The candidate's intelligence
13	Personality - Leadership	The candidate's ability to lead, get people to work together, make people want to follow, inspire people, inspire the respondent, motivate people, motivate the respondent
14	Personality - Other	Anything about the candidate's personality that does not match the description above
15	Candidate Health / Mental Fitness	The candidate's health and mental sharpness. Age.
16	Religion	The candidate does, or does not, belong to a specific religious group. The candidate is religious or not religious
17	Education	The candidate's education, where the candidate went to school or college, the candidate's type of diploma or college degree
18	Physical Appearance	The candidate's physical appearance, attractiveness, how good the candidate looks
19	Demographics	The candidate's age, sex, sexual orientation, race, ethnicity, height, weight, marital status, or where the candidate is from
20	Policy - Economic	What the candidate will do about the economy, taxes,

		government spending, the budget, the deficit, and the national debt? The candidate's policy, stand, views, position, or emphasis on the economy, taxes, government spending, the budget, the deficit, the national debt. Covid stimulus, and other economic or fiscal concerns
21	Policy - Poor People	What the candidate will do about government programs to help poor people. The candidate's policy, stand, views, position, or emphasis on government programs to help poor people. NOTE: This code should is only assigned to ideas that mention helping poor people or government programs to help poor people. Examples of government programs to help poor people include: welfare, food stamps, Medicaid, Aid for Families with Dependent Children (AFDC), and public housing. Any idea that mentions how much the candidate cares about poor people is assigned to the **"groups"** code (26)
22	Policy - Liberty	What will the candidate allow people to do, prevent people from doing, or make legal or illegal. The candidate's policy, stand, views, position, or emphasis on what people should be allowed or prevented from doing or what should activities should be legal or illegal. Abortion, LGBTQ policy, and Marijuana are some examples
23	Policy - International Affairs	How will the candidate deal with other countries in general, foreign policy in general, and the reputation of the United States? The candidate's policy, stand views, position, or emphasis on other countries in general, foreign policy in general, and the reputation of the United States.
24	Policy - Judiciary	Supreme court, judicial appointments, and court packing. Any other illusions to judicial policy
25	Policy - Other	What will the candidate do about something that does not match a description in codes 20-24. The candidate's policy, stand views, position, or emphasis on something that does not match a description in codes 20-24.
26	Groups	The candidate's support for, or feelings about, a specific group of people
27	Emotions / Feelings	The candidate makes the respondent feel happy, sad, angry, proud, afraid, scared

28	Candidate - Other	Any mention of something about Trump / Biden that does not match another code
29	Non - Candidate	Any mention of something other than the candidate and that is not about the respondent
30	Public Health / Covid	Both pro and anti-Covid mitigation. Masks, lockdowns, school closures. Health infrastructure, Vaccines, and other covid specific mentions
31	Democracy / Voting Rights	Election Fraud, Voter suppression, ballot access, democratic insecurities, abuses of power, saving democracy, or rolling back voting acess, etc.
32	Racial Issues	BLM, George Floyd, racial equality, defund the police, and other broad illusions to racial justice or racial resentment (Close to code 26 but specifically focused on racial issues)
33	Running Mate / Endorsement	Running mate (Kamala Harris or Mike Pence). Or key endorsements from respected political or non-political figures (Party Luminaries) such as James Clyburn for Biden or Jerry Falwell Jr. for Trump
34	Don't Know	I don't know, Don't know, DK, I'm unsure, I'm not sure, Unsure, You got me, I can't remember, I have no clue, No clue, I have no idea, No idea, No guess, no, nothing
35	All others	Any statement that does not fit the codes

Steps for coding:

1) Take a response and read it in detail, for example, take this response from Joe Biden - Likes :

> **"He isn't Donald Trump. He shares my view of what America stands for. I want to save our democracy."**

2) In my view, there are a few topics mentioned in this response.
   - ☐ 5) Better than the alternative
   - ☐ 3) Ideology / Philosophy
   - ☐ 31) Voting rights

However, this is subjective; read through and fully vet each answer, but there is no truly correct way to code these responses. Do your best, and be sure you have a reason for how you coded this particular response any particular way. Remember that all responses can have up to as many codes as you would like to assign.

3) Input codes for a specific response on the sheet:
    a) If a topic has been selected, place a "**1**" on the corresponding column
    b) For this example, columns "**3**" "**5**" and "**31**" receive "**1**'s"
    c) Leave any notes in the notes column to clarify anything that may come up for this particular response
4) When completed, all responses are allocated, then circle back and fill the nonresponses with "**0**" so we can denote that no response has been given. (this can be done when you finalize the sheet)

Some tips for effective coding practices

- Make sure to have a notepad or device for taking notes while reading each response.
- For me, I found that printing out the topics and making a check mark on each that came up helped with inputting the data.
- Our expectation is that you can complete 50 responses in an hour, but it's probably best to go for 45 minutes and then take a few minutes for a break; completing too many responses in a row will become difficult.
- Quality is key in these responses. Make sure you are accurate over quickness; that will be very helpful once we have the full data.

Appendix B - STM Output for the Human Coded Likes/Dislikes sample

- N = 800

Set to 34:

Topic 1 Top Words:
    Highest Prob: like, seem, countri, best, mani, just, interest
    FREX: like, best, seem, interest, mani, just, back
    Lift: agenst, amercia, counti, fantast, inconsist, older, prayer
    Score: like, seem, best, mani, interest, back, topic
Topic 2 Top Words:
    Highest Prob: us, liar, profession, continu, bulli, everyon, dishonesti
    FREX: profession, bulli, continu, liar, us, dishonesti, call
    Lift: asshole, assist, establish, evid, prepar, resist, sucks
    Score: profession, bulli, liar, continu, us, name, evid
Topic 3 Top Words:
    Highest Prob: believ, countri, belief, one, mine, led, pro
    FREX: believ, mine, belief, led, align, pro, poor
    Lift: alaskin, babi, commerci, communal, compli, convict, covit
    Score: believ, led, gave, match, mine, belief, alaskin
Topic 4 Top Words:
    Highest Prob: lie, racist, doesnt, help, presidenti, want, sexist
    FREX: doesnt, lie, presidenti, sexist, pretti, help, racist
    Lift: add, aloud, anti, antisemit, averag, backround, basement
    Score: lie, doesnt, yes, sexist, pretti, comment, help
Topic 5 Top Words:
    Highest Prob: mental, liber, incompet, poor, fit, america, he'
    FREX: mental, incompet, liber, fit, crazi, poor, integr
    Lift: actualli, apart, brutality.commun, catagori, clariti, corupt, decid
    Score: mental, incompet, liber, poor, disrespect, fit, inform
Topic 6 Top Words:
    Highest Prob: care, countri, obama, control, gun, agre, health
    FREX: care, control, gun, obama, agre, countri, trustworthi
    Lift: affect, appal, appeal, blunt, cabinet, calm, concis
    Score: care, control, gun, obama, agre, trustworthi, health
Topic 7 Top Words:
    Highest Prob: countri, presid, pro, approach, get, question, life
    FREX: approach, question, pro, life, get, progress, improv
    Lift: -he, aesthet, aim, alongsid, amaz, anything.unfortun, asham
    Score: approach, question, life, progress, -he, aesthet, alongsid

Topic 8 Top Words:

    Highest Prob: make, time, peopl, divid, also, good, well

    FREX: divid, danger, make, well, cheat, time, covid-19

    Lift: based, benefitting, broadcast, chois, conquer, countrymen, crimes

    Score: danger, president, cheat, spend, divid, covid-19, staff

Topic 9 Top Words:

    Highest Prob: lack, empathi, lead, leader, respect, proper, abil

    FREX: lack, empathi, proper, lead, respect, loyalti, abil

    Lift: appointe, craven, demand, dunning-krueg, envious, grow, humbl

    Score: lack, empathi, loyalti, lead, respect, proper, craven

Topic 10 Top Words:

    Highest Prob: govern, know, work, realli, job, person, prefer

    FREX: govern, prefer, know, realli, work, tough, question

    Lift: academ, acuiti, advis, advocaci, affairs, appeas, associ

    Score: govern, know, prefer, realli, job, berni, illeg

Topic 11 Top Words:

    Highest Prob: left, far, general, even, parti, polici, understand

    FREX: left, general, far, understand, though, even, civil

    Lift: accomplis, adher, alone, canid, chief, civil, command

    Score: left, understand, civil, far, general, lack, though

Topic 12 Top Words:

    Highest Prob: say, everyth, trust, enough, he', mind, racist

    FREX: everyth, say, trust, enough, pro-lif, mind, worst

    Lift: abortion2nd, againstanyth, among, apolog, badh, boorish, consisten

    Score: say, everyth, trust, worst, liter, ruin, enough

Topic 13 Top Words:

    Highest Prob: peopl, done, first, lifelong, redacted, record, respect

    FREX: lifelong, redacted, damag, record, foremost, unqualifi, past

    Lift: anti-african, anti-lgbtq, anti-muslim, anti-sci, anti-woman, coalit, curs

    Score: unqualifi, redacted, foremost, lifelong, respect, coalit, progran

Topic 14 Top Words:

    Highest Prob: democrat, american, way, polit, social, true, use

    FREX: democrat, way, true, american, use, candid, social

    Lift: alzheim, arm, balancedgood, beinggreat, cover, dirti, edg

    Score: democrat, way, true, american, use, left, racial

Topic 15 Top Words:

    Highest Prob: person, good, moral, peopl, lot, cant, lead

    FREX: person, cant, moral, good, lot, counter, hung

    Lift: alabama, bidn, church, counter, crowd, crticism, endeveaor

    Score: person, counter, hung, cant, enjoy, good, alabama

Topic 16 Top Words:

    Highest Prob: dont, right, countri, stand, want, great, just

    FREX: dont, stand, right, great, puppet, want, just

    Lift: alleg, anarchi, appropri, attempt, bankruptci, bless, bozo

    Score: dont, right, puppet, stand, want, strong, great

Topic 17 Top Words:

    Highest Prob: tax, concern, happi, fair, health, hear, higher

    FREX: happi, tax, wage, fair, concern, higher, hear

    Lift: amendment.addit, ban, colleg, counri, coverag, debat, facilit

Score: tax, happi, wage, minimum, higher, intern, hear
Topic 18 Top Words:
    Highest Prob: socialist, countri, never, nation, ethic, respons, pandem
    FREX: socialist, ethic, answers, believe, never, becom, government
    Lift: accept, accomplished, agenc, always, brief, bur, business
    Score: answers, socialist, signific, offend, believe, ethic, respons
Topic 19 Top Words:
    Highest Prob: poor, handl, stanc, spend, foreign, polit, support
    FREX: poor, spend, stanc, handl, foreign, accomplish, encount
    Lift: absorb, absurd, abysm, acquiesc, amalgam, anymor, appreci
    Score: spend, poor, number, stanc, epidem, encount, handl
Topic 20 Top Words:
    Highest Prob: economi, polici, busi, militari, econom, foreign, dementia
    FREX: economi, busi, econom, militari, polici, dementia, foreign
    Lift: ad, alzhimer, boarder, centuri, concur, contradict, de-regul
    Score: economi, busi, polici, militari, econom, dementia, foreign
Topic 21 Top Words:
    Highest Prob: view, democrat, vote, parti, corrupt, seem, posit
    FREX: view, vote, corrupt, choos, democrat, point, im
    Lift: accompl, adult, anti-china, anti-russian, antifa, arriv, bit
    Score: view, choos, democrat, vote, parti, howev, seem
Topic 22 Top Words:
    Highest Prob: run, year, mate, presid, four, valu, past
    FREX: mate, year, run, four, valu, ago, past
    Lift: defend, longer, ago, act, judgment, mate, four
    Score: run, year, mate, four, ago, past, valu
Topic 23 Top Words:
    Highest Prob: doesn't, decis, touch, come, listen, mouth, make
    FREX: doesn't, touch, mouth, come, truth, decis, stupid
    Lift: data-bas, decic, detriment, entitl, implement, ineptitud, lgbtq
    Score: doesn't, child, mouth, touch, truth, wear, scienc
Topic 24 Top Words:
    Highest Prob: like, lot, everi, crimin, justic, just, put
    FREX: justic, crimin, everi, trade, got, ran, lot
    Lift: anim, blackmail, burisma, chain, chariti, che, communist
    Score: cop, got, cater, everi, justic, trade, crimin
Topic 25 Top Words:
    Highest Prob: thing, done, get, pandem, work, go, can
    FREX: get, thing, done, pandem, long, can, alot
    Lift: aisl, beat, decades, equip, hit, it.unifi, laid
    Score: thing, done, get, pandem, can, long, due
Topic 26 Top Words:
    Highest Prob: presid, age, idiot, vice, agenda, idea, right
    FREX: age, idiot, vice, confus, idea, agenda, presid
    Lift: barak, broader, communic, confus, form, gravita, mushroom
    Score: age, vice, idiot, confus, idea, agenda, communic
Topic 27 Top Words:
    Highest Prob: man, good, presid, need, job, leader, strong
    FREX: man, need, good, job, leader, someon, strong

Lift: bussiness, i've, polition, rhino, save, unwilling, upsid
Score: man, need, leader, good, job, strong, someon

Topic 28 Top Words:
Highest Prob: peopl, experi, honesti, vp, serv, basic, pro
FREX: experi, honesti, serv, peopl, basic, vp, younger
Lift: 70-someth, agit, along.previ, beneath, contri, encourag, generat
Score: peopl, experi, honesti, basic, serv, vp, younger

Topic 29 Top Words:
Highest Prob: american, biden, respect, strong, joe, countri, support
FREX: respect, activ, joe, demonstr, togeth, strong, biden
Lift: abortionfar, activ, adrenachrom, approv, artist, asil, avoc
Score: respect, pres, activ, strong, 2nd, medic, togeth

Topic 30 Top Words:
Highest Prob: also, american, extrem, hate, anyth, person, presid
FREX: favor, hate, extrem, patholog, import, anyth, moder
Lift: absolut, amongst, anger, balanc, beauti, cage, commnist
Score: concept, land, natur, water, favor, hate, fascist

Topic 31 Top Words:
Highest Prob: honest, biden, racist, white, hous, countri, offic
FREX: honest, hous, bigot, white, biden, involved, questionable
Lift: advice-and, advice-from, advoc, alb, americapro-lifesupport, aw, belong
Score: bigot, involved, questionable, transactions, hous, biden, honest

Topic 32 Top Words:
Highest Prob: countri, want, make, help, us, togeth, bring
FREX: togeth, taxes, bring, want, help, people, redacted
Lift: amnesti, andself, announc, bend, blue, breviti, bulling
Score: togeth, taxes, bring, redacted, want, help, people

Topic 33 Top Words:
Highest Prob: trump, donald, old, better, countri, work, american
FREX: donald, trump, old, better, choic, clue, chanc
Lift: banana, besid, best-suit, case, clue, defin, entrench
Score: trump, donald, old, better, choic, sometim, anyon

Topic 34 Top Words:
Highest Prob: think, america, speak, politician, fact, last, run
FREX: think, america, speak, fact, last, politician, joe
Lift: crippl, nurs, think, america, speak, home, last
Score: think, america, speak, fact, last, politician, crippl

Set to 38:

Topic 1 Top Words:
    Highest Prob: strong, socialist, leader, agenda, support, parti, everything
    FREX: socialist, strong, agenda, leader, everything, support, parti
    Lift: amercia, anti, antisemit, bussiness, condon, everything, polition
    Score: strong, socialist, agenda, leader, everything, support, anti
Topic 2 Top Words:
    Highest Prob: handl, leadership, poor, profession, lack, charact, ethic
    FREX: handl, leadership, profession, dishonesti, immor, ethic, qualifi
    Lift: act, everythingdishonest, evid, immatur, outbreak, prejudic, resist
    Score: handl, leadership, profession, dishonesti, virus, immor, poor
Topic 3 Top Words:
    Highest Prob: live, trust, think, right, lie, thing, lot
    FREX: live, trust, great, ridicul, alway, right, lie
    Lift: actualli, babi, basement, brutality.commun, donor, enrich, freed
    Score: live, trust, ridicul, murder, donor, enrich, hundr
Topic 4 Top Words:
    Highest Prob: polici, year, believ, foreign, countri, plan, presid
    FREX: polici, foreign, year, econom, ago, believ, plan
    Lift: accomplis, consolid, defend, democra, eas, guess, i've
    Score: polici, year, ago, foreign, chang, four, plan
Topic 5 Top Words:
    Highest Prob: he', incompet, mental, even, racist, seem, lie
    FREX: incompet, he', seen, though, even, dishonest, mental
    Lift: appal, boy, canid, clariti, deterior, discust, faster
    Score: seen, he', incompet, though, even, mental, dishonest
Topic 6 Top Words:
    Highest Prob: lie, think, anyon, also, offic, racist, presid
    FREX: anyon, lie, racist, sometim, pretti, behavior, demean
    Lift: advoc, aloud, anim, behavior, cage, circl, deceit
    Score: lie, anyon, disgust, demean, pathet, excus, sometim
Topic 7 Top Words:
    Highest Prob: time, long, realli, old, left, know, polit
    FREX: long, time, realli, old, left, accomplish, know
    Lift: acuiti, appeas, collus, complic, countrymen, far-left, flip-flop

Score: time, long, realli, old, spend, left, accomplish

Topic 8 Top Words:

    Highest Prob: well, peopl, presid, covid-19, liter, lie, like

    FREX: well, liter, covid-19, emot, spite, unstabl, obvious

    Lift: -he, aesthet, alongsid, anarchi, asham, bill.-h, bitter

    Score: spite, well, covid-19, liter, putin, death, hold

Topic 9 Top Words:

    Highest Prob: economi, tax, militari, health, year, care, last

    FREX: economi, militari, last, tax, health, brought, strength

    Lift: best-suit, carebett, centuri, decency-, decic, immigrat, ineptitud

    Score: economi, militari, health, tax, crime, last, strength

Topic 10 Top Words:

    Highest Prob: peopl, racist, us, govern, work, know, honesti

    FREX: racist, peopl, honesti, govern, us, doesnt, know

    Lift: appreciat, backround, banana, beneath, daughter, dedic, encount

    Score: peopl, racist, govern, know, us, honesti, doesnt

Topic 11 Top Words:

    Highest Prob: resourc, american, clean, public, concept, land, natur

    FREX: resourc, clean, concept, land, natur, water, public

    Lift: concept, land, natur, water, absolut, amongst, anger

    Score: concept, land, natur, water, resourc, clean, absolut

Topic 12 Top Words:

    Highest Prob: honest, liar, experi, care, american, think, vp

    FREX: honest, liar, people, experi, vp, office, noth

    Lift: accompl, agenst, alb, anything, apolog, badh, biggest

    Score: honest, liar, people, experi, office, anything, vp

Topic 13 Top Words:

    Highest Prob: posit, anyth, government, valu, good, appoint, person

    FREX: government, posit, anyth, appoint, judgment, valu, class

    Lift: agenc, anymor, cabinet, concur, confront, core, correct

    Score: posit, government, judgment, anyth, appoint, valu, agenc

Topic 14 Top Words:

    Highest Prob: like, presid, countri, run, care, seem, obama

    FREX: like, idiot, obama, run, presid, seem, care

    Lift: affect, alzhimer, balanc, barak, capable, changei, clue

    Score: like, run, presid, vice, idiot, obama, care

Topic 15 Top Words:

    Highest Prob: done, job, get, thing, said, polit, claim

    FREX: get, job, done, claim, fool, thing, said

    Lift: academ, advocaci, credenti, degeneraci, degre, earn, falsifi

    Score: done, get, job, claim, thing, fool, advocaci

Topic 16 Top Words:

    Highest Prob: democrat, countri, everyth, help, politician, parti, us

    FREX: lifelong, accomplish, democrat, wai, record, help, progress

    Lift: aim, assist, avoc, coalit, communiti, counter-punches, head

    Score: lifelong, school, wai, line, damag, socialist, weak

Topic 17 Top Words:

    Highest Prob: pro, abort, like, polici, support, strong, done

    FREX: pro, abort, 2nd, trade, life, amend, polici

Lift: cop, signific, alzheim, approv, che, contrari, democr

Score: pro, abort, 2nd, cop, signific, amend, obamacar

Topic 18 Top Words:

Highest Prob: countri, work, american, taxes, nation, lot, happi

FREX: taxes, happi, answers, hear, within, choic, work

Lift: advis, always, amendment.addit, answers, arm, ban, based

Score: taxes, answers, happi, hear, work, choic, details

Topic 19 Top Words:

Highest Prob: democrat, stanc, polit, he', issu, put, racist

FREX: stanc, progress, cater, he', democrat, nomine, war

Lift: abortion2nd, absurd, abysm, acquiesc, alli, amalgam, amount

Score: stanc, cater, nomine, rais, alli, amount, countless

Topic 20 Top Words:

Highest Prob: busi, good, man, make, go, far, concern

FREX: busi, matter, man, approach, concern, far, good

Lift: amnesti, chois, de-regul, easier, expens, folk, freedom

Score: busi, approach, matter, good, man, go, far

Topic 21 Top Words:

Highest Prob: best, tax, year, want, democrat, instead, involved

FREX: involved, questionable, transactions, instead, best, interest, tax

Lift: apart, brother, building, bulling, charges, convicted, desir

Score: involved, questionable, transactions, instead, best, els, son

Topic 22 Top Words:

Highest Prob: dementia, biden, knowledg, clear, polit, suffer, joe

FREX: dementia, clear, knowledg, suffer, agree, mislead, compass

Lift: adher, affairs, agree, andself, associ, bend, clinton

Score: dementia, mislead, clear, suffer, agree, sexual, knowledg

Topic 23 Top Words:

Highest Prob: lack, empathi, peopl, leader, govern, pandem, honesti

FREX: empathi, lack, honesti, leader, loyalti, govern, human

Lift: appointe, asshole, balancedgood, beinggreat, breviti, comparison, craven

Score: lack, empathi, loyalti, due, leader, honesti, african

Topic 24 Top Words:

Highest Prob: view, age, belief, countri, align, american, feel

FREX: age, align, belief, view, empathet, led, mine

Lift: announc, appeal, commerci, condit, convict, data-bas, democratic

Score: age, align, view, belief, led, gave, match

Topic 25 Top Words:

Highest Prob: agre, gun, polici, countri, america, control, speak

FREX: gun, agre, control, healthcar, speak, polici, demeanor

Lift: alone, along.previ, besid, boarder, breaks, businesses, communic

Score: agre, gun, healthcar, control, keep, isn't, policies

Topic 26 Top Words:

Highest Prob: run, liber, mate, love, mental, presid, vice

FREX: liber, mate, run, love, vice, mental, woman

Lift: atart, descent, discuss, finish, hasn't, indian, jamaican

Score: mate, liber, run, woman, probabl, love, mental

Topic 27 Top Words:

Highest Prob: back, america, economi, want, court, put, wall

FREX: back, court, justic, wall, crimin, put, america
Lift: add, adrenachrom, bye, drain, guantanamo, loud, pack
Score: back, court, judg, justic, suprem, wall, order
Topic 28 Top Words:
Highest Prob: moral, good, basic, person, man, doesn't, compet
FREX: basic, moral, doesn't, compet, relat, redacted, disagre
Lift: agit, anti-sci, appropri, bankruptci, blue, bozo, catagori
Score: basic, moral, doesn't, redacted, problem, offend, societi
Topic 29 Top Words:
Highest Prob: great, countri, use, media, promis, presid, america
FREX: great, media, promis, use, patriot, twitter, lower
Lift: alleg, anti-china, anti-russian, antifa, bless, blm-er, chariti
Score: media, great, lower, use, made, amendment, promis
Topic 30 Top Words:
Highest Prob: say, dont, just, thing, mind, enough, mani
FREX: dont, mind, say, just, enough, address, thing
Lift: ad, adult, ain't, brutal, byrd, climt, contradict
Score: mind, say, dont, thing, just, enough, address
Topic 31 Top Words:
Highest Prob: peopl, countri, care, seem, listen, etc, togeth
FREX: attitud, listen, togeth, toward, seem, mouth, futur
Lift: advice-and, advice-from, artist, blunt, built, card, concis
Score: environment, toward, togeth, attitud, listen, ruin, peopl
Topic 32 Top Words:
Highest Prob: everyth, countri, person, divid, trustworthi, lead, think
FREX: everyth, trustworthi, divid, lead, trust, person, countri
Lift: againstanyth, allianc, anything.unfortun, commnist, convers, convinc, crook
Score: everyth, trustworthi, divid, crook, trust, lead, terribl
Topic 33 Top Words:
Highest Prob: trump, donald, peopl, person, vote, better, countri
FREX: donald, trump, lead, vote, person, counter, hung
Lift: counter, hung, alabama, bidn, biggot, church, cover
Score: trump, donald, counter, hung, enjoy, lead, vote
Topic 34 Top Words:
Highest Prob: countri, polic, want, fight, import, polit, issu
FREX: fight, polic, import, respons, christian, dont, want
Lift: asil, beat, burn, detials, entrench, evolv, guard
Score: fight, polic, import, respons, christian, dont, citi
Topic 35 Top Words:
Highest Prob: democrat, vote, countri, old, choic, idea, mani
FREX: democrat, choic, idea, vote, ill, old, harri
Lift: absorb, amaz, anti-african, anti-lgbtq, anti-muslim, anti-woman, appreci
Score: vote, democrat, unqualifi, harri, choic, ill, howev
Topic 36 Top Words:
Highest Prob: spend, candid, joe, biden, say, intellig, number
FREX: spend, candid, number, refus, joe, intellig, lean
Lift: accept, averag, aw, brief, broadcast, catastroph, choice
Score: spend, number, refus, candid, choice, consequence, pregnanci
Topic 37 Top Words:

Highest Prob: feel, like, presid, look, see, way, fair
FREX: feel, see, fair, look, differ, class, extrem
Lift: 70-someth, abortionfar, accomplished, alaskin, belong, bottom, business
Score: feel, see, differ, fair, look, yet, anoth
Topic 38 Top Words:
Highest Prob: think, done, way, conserv, principl, say, go
FREX: principl, conserv, way, give, build, chanc, think
Lift: how, principl, treatment, enforc, coronavirus, safe, conserv
Score: principl, how, conserv, call, safe, treatment, enforc

Appendix C - STM Output for the full set of valid responses

- N = 16,608

Set to 32:

Topic 1 Top Words:
Highest Prob: countri, state, unite, continu, citizen, actual, unit
FREX: unite, unit, countri, state, direct, sens, place
Lift: 4th, abnoxi, abouth, absente, abund, addtional, afghan
Score: countri, state, unite, continu, unit, citizen, sens
Topic 2 Top Words:
Highest Prob: polici, support, tax, chang, social, immigr, foreign
FREX: polici, tax, foreign, healthcar, secur, increas, cut
Lift: daca, decrimin, emiss, incom, marijuana, smaller, 21st
Score: polici, tax, support, immigr, foreign, polic, climat
Topic 3 Top Words:
Highest Prob: lack, leadership, moral, charact, other, self, action
FREX: lack, leadership, moral, charact, self, ethic, skill
Lift: abrasiv, answers, attitude, cocki, defi, egocentr, et
Score: lack, charact, self, moral, leadership, other, empathi
Topic 4 Top Words:
Highest Prob: done, thing, get, know, tri, anyth, doesnt
FREX: done, thing, get, know, anyth, doesnt, crazi
Lift: 4yr, 6th, abouqt, abt, adgenda, agreementstock, agreemnet
Score: done, thing, get, know, tri, anyth, doesnt
Topic 5 Top Words:
Highest Prob: make, want, america, go, great, work, first
FREX: want, america, great, first, go, class, make
Lift: 4year, admenment, affairh, afloat, aginst, agricultu, allfor
Score: america, want, make, great, go, work, first
Topic 6 Top Words:
Highest Prob: age, made, promis, fact, question, follow, may

FREX: age, made, promis, question, follow, idiot, answer
Lift: 5x, aberr, abortionheret, abortions, aboution, active, adaptable
Score: age, promis, made, question, kept, answer, campaign
Topic 7 Top Words:
Highest Prob: democrat, parti, candid, old, republican, progress, platform
FREX: democrat, parti, candid, old, republican, platform, radic
Lift: 2016he, 40s, 50s, afili, anathema, antifia, apper
Score: democrat, parti, candid, old, republican, platform, puppet
Topic 8 Top Words:
Highest Prob: american, famili, live, black, matter, communiti, use
FREX: american, live, matter, kill, separ, babi, african
Lift: separ, 170k, abandonment, aca5, adherenc, affiliat, african
Score: american, live, black, famili, matter, african, communiti
Topic 9 Top Words:
Highest Prob: year, better, best, interest, last, accomplish, act
FREX: year, better, best, last, four, heart, next
Lift: act.recogn, adec, agewhit, americans', amus, apathet, aprov
Score: year, better, best, interest, last, accomplish, four
Topic 10 Top Words:
Highest Prob: us, leader, world, back, put, bring, truth
FREX: leader, truth, tell, world, put, mind, us
Lift: countrymen, fragil, placat, 2sentenc, accomplush, actionsour, ageist
Score: us, leader, bring, world, truth, tell, back
Topic 11 Top Words:
Highest Prob: lie, hate, call, name, constant, tweet, arrog
FREX: lie, hate, constant, tweet, arrog, embarrass, evil
Lift: childish, offens, 80s, 90s, aback, adore, aggreement
Score: lie, hate, constant, evil, arrog, call, tweet
Topic 12 Top Words:
Highest Prob: experi, govern, respect, work, obama, public, understand
FREX: experi, understand, honesti, experienc, integr, across, compassion
Lift: across, depth, dignifi, digniti, equit, genuin, honor
Score: experi, experienc, honesti, respect, integr, work, understand
Topic 13 Top Words:
Highest Prob: economi, strong, keep, militari, china, job, border
FREX: economi, strong, trade, wall, improv, build, market
Lift: boom, buiness, decreas, ecomoni, fare, fighter, hardlin
Score: economi, strong, militari, keep, trade, china, wall
Topic 14 Top Words:
Highest Prob: peopl, way, help, noth, decis, listen, around
FREX: peopl, way, els, expert, listen, advisor, everyon
Lift: confront, everythingh, explain, freed, obnoxi, smarter, listen
Score: peopl, way, help, listen, decis, noth, everyon
Topic 15 Top Words:

Highest Prob: believ, pro, hes, life, choic, protect, mouth
FREX: believ, pro, life, mouth, court, freedom, 2nd
Lift: canad, hea, preform, rasist, sentanc, 2nd, amend
Score: pro, believ, hes, life, choic, freedom, 2nd

Topic 16 Top Words:
Highest Prob: think, good, say, stand, politician, much, speak
FREX: think, good, politician, speak, talk, say, fool
Lift: afriad, alb, alia, andemend, anil, approch, b.s
Score: think, good, say, politician, stand, speak, much

Topic 17 Top Words:
Highest Prob: well, abort, stanc, control, poor, gun, anti
FREX: abort, stanc, control, gun, anti, que, de
Lift: buena, clase, dreamer, dress, gusta, hacer, hacia
Score: que, abort, stanc, el, gun, es, y

Topic 18 Top Words:
Highest Prob: polit, everyth, can, honest, trust, toward, show
FREX: polit, everyth, guy, stay, track, show, honest
Lift: confusion, i'd, jack, literal, polit, pragmat, silent
Score: polit, everyth, honest, can, trust, show, record

Topic 19 Top Words:
Highest Prob: vote, one, left, even, far, elect, never
FREX: vote, far, point, though, aw, lgbtq, one
Lift: antic, third, #2, accomplishments.i, addendum, adolesc, advocating
Score: vote, left, far, one, elect, even, reason

Topic 20 Top Words:
Highest Prob: presid, person, seem, need, mani, offic, bad
FREX: person, presid, seem, need, mani, bad, offic
Lift: antiquat, anyhow, cede, class.h, closet, clownstick, defis
Score: presid, person, seem, need, offic, mani, bad

Topic 21 Top Words:
Highest Prob: like, just, dont, realli, people, president, rude
FREX: like, just, dont, people, everything, things, believe
Lift: accomplishments, advantage, affordable, belive, bus, candidate, candidates
Score: like, dont, just, people, realli, president, things

Topic 22 Top Words:
Highest Prob: covid, pandem, handl, nation, respons, lead, divid
FREX: pandem, handl, divid, racial, coronavirus, serious, respons
Lift: discord, fortun, further, immens, immoral, inadequ, infect
Score: covid, pandem, handl, respons, divid, scienc, nation

Topic 23 Top Words:
Highest Prob: run, women, concern, liber, vp, histori, harri
FREX: run, liber, vp, harri, mate, kamala, touch
Lift: 25th, 4ys, abilitytax, accompishments, activiti, adddress, afectaria
Score: run, mate, concern, liber, women, harri, vp

Topic 24 Top Words:

    Highest Prob: care, racist, liar, view, corrupt, narcissist, incompet

    FREX: racist, liar, sexist, misogynist, dictat, cheat, bigot

    Lift: callous, cannon, cruel, egotist, feminist, insuranc, mobster

    Score: racist, care, liar, view, narcissist, sexist, incompet

Topic 25 Top Words:

    Highest Prob: human, divis, everi, anyon, power, complet, rather

    FREX: human, power, absolut, realiti, disgust, isnt, fake

    Lift: ambit, appli, bar, dishonor, fake, fli, foolish

    Score: human, divis, disregard, power, everi, worst, complet

Topic 26 Top Words:

    Highest Prob: issu, long, past, democraci, behavior, almost, financi

    FREX: issu, long, past, fix, success, crime, threat

    Lift: #s.100, abortion2nd, abusive, accord.hi, act.hi, addl, afro

    Score: issu, past, long, democraci, behavior, crime, fix

Topic 27 Top Words:

    Highest Prob: man, job, take, time, busi, lot, said

    FREX: man, washington, straight, brain, crap, said, busi

    Lift: abaut, abilityglob, abrupt, absorbt, accomplished, acosso, admiredired

    Score: man, busi, job, time, take, lot, said

Topic 28 Top Words:

    Highest Prob: also, mental, appear, health, term, fit, dementia

    FREX: mental, appear, fit, sexual, capabl, weak, don't

    Lift: 1bn, aamed, abiut, absent, actblu, adapt, agenst

    Score: mental, appear, dementia, fit, sexual, cognit, health

Topic 29 Top Words:

    Highest Prob: trump, donald, he', white, racism, hous, statement

    FREX: trump, donald, he', white, chanc, supremacist, sexism

    Lift: bribe, exhaust, abhor, asap, bid, blown, cat

    Score: trump, donald, he', white, racism, hous, chanc

Topic 30 Top Words:

    Highest Prob: right, see, now, import, relat, race, decent

    FREX: right, see, now, relat, race, wrong, pleas

    Lift: assembl, bombast, gay, gender, marriag, now, pizzag

    Score: right, see, now, decent, race, relat, wrong

Topic 31 Top Words:

    Highest Prob: biden, feel, joe, agre, belief, sure, abl

    FREX: biden, feel, joe, sure, berni, topic, sander

    Lift: excit, golden, graduat, happi, mere, poorer, tulsi

    Score: biden, joe, feel, agre, belief, sure, berni

Topic 32 Top Words:

    Highest Prob: valu, socialist, come, repres, look, agenda, general

    FREX: valu, repres, agenda, look, socialist, come, someth

    Lift: accomish, concret, conserev, constit, huh, optic, screech

Score: socialist, valu, agenda, repres, come, general, look

Set to 38:

Topic 1 Top Words:
      Highest Prob: state, unite, destroy, sinc, world, stock, allow
      FREX: state, unite, stock, ridicul, laugh, amaz, sinc
      Lift: accountabl, anarchist, blast, candidaci, declar, enviro, forefront
      Score: state, unite, stock, destroy, sinc, market, laugh

Topic 2 Top Words:
      Highest Prob: white, environ, virus, rich, hous, global, alli
      FREX: white, virus, rich, global, spread, supremacist, environ
      Lift: brutal, cannon, erratic, impeachment, junk, reactiv, spread
      Score: white, virus, environ, global, rich, corona, hous

Topic 3 Top Words:
      Highest Prob: use, come, power, twitter, base, across, speech
      FREX: use, across, negat, account, aisl, norm, gener
      Lift: @nyth, #1, #2, #s.100, 3.5mill, abu, acawon't
      Score: use, twitter, come, power, across, base, aisl

Topic 4 Top Words:
      Highest Prob: countri, think, believ, just, can, tell, truth
      FREX: believ, tell, think, countri, just, error, proof
      Lift: error, proof, abortionnew, agreemnet, ake, amendmentnot, anbett
      Score: countri, think, believ, just, can, tell, truth

Topic 5 Top Words:
      Highest Prob: good, job, obama, realli, said, idea, mouth
      FREX: good, shut, straight, realli, obama, crap, gonna
      Lift: cocki, shooter, sounds, 403b, acheiv, aconomi, acquaint
      Score: good, job, obama, realli, mouth, said, idea

Topic 6 Top Words:
      Highest Prob: person, issu, honest, age, left, far, vice
      FREX: left, far, honest, person, vice, issu, appear
      Lift: centric, incompat, pleasant, waver, aris, canidate, content
      Score: person, age, honest, issu, left, far, vice

Topic 7 Top Words:
      Highest Prob: polici, politician, agre, stanc, control, career, gun

FREX: polici, agre, control, career, belief, lean, politician
Lift: 0bama, abiliy, abortions, accommod, accord.hi, act.hi, aet
Score: polici, politician, stanc, gun, agre, career, control

Topic 8 Top Words:
Highest Prob: peopl, american, seem, put, public, word, true
FREX: seem, genuin, peopl, averag, african, american, dedic
Lift: aboput, african, ale, americapro, appreciatethat, averag, backfrom
Score: peopl, american, seem, put, public, genuin, word

Topic 9 Top Words:
Highest Prob: done, thing, year, polit, way, anyth, noth
FREX: done, four, anyth, thing, way, now, ago
Lift: tail, forev, game, anyth, 2016he, accompishments, acomplish
Score: done, year, thing, polit, way, noth, anyth

Topic 10 Top Words:
Highest Prob: man, never, act, terribl, mean, thought, embarrass
FREX: man, never, child, doesn't, nice, subject, matur
Lift: ambit, angri, answers, bar, bleach, explain, kinder
Score: man, never, terribl, act, embarrass, thought, disrespect

Topic 11 Top Words:
Highest Prob: much, speak, mind, live, divid, black, call
FREX: much, unit, tweet, matter, mind, demeanor, speak
Lift: 25th, 401ks, abuse, actionsour, adec, aeem, again.hope
Score: speak, much, mind, divid, black, live, tweet

Topic 12 Top Words:
Highest Prob: get, help, chang, climat, world, system, hope
FREX: help, chang, get, system, restor, problem, abl
Lift: avail, consensus, facilit, pool, pragmat, help, abaut
Score: chang, get, help, climat, hope, world, creat

Topic 13 Top Words:
Highest Prob: view, point, educ, gain, align, face, certain
FREX: view, point, educ, align, particular, topic, stuff
Lift: definit, fare, 2sentenc, 66th, a.k.a, abiltiy, accompl
Score: view, educ, point, align, cant, gain, face

Topic 14 Top Words:
Highest Prob: lie, mani, corrupt, poor, divis, self, racism
FREX: lie, dishonesti, hate, self, corrupt, hatr, poor
Lift: 70s, absorbt, addressed, adminstr, admiredired, agains, america.ha
Score: lie, corrupt, incompet, self, racism, poor, divis

Topic 15 Top Words:
Highest Prob: trump, donald, democrat, biden, vote, better, joe
FREX: trump, donald, democrat, biden, joe, parti, candid
Lift: activism, adapt, administrarion, agaist, all.just, antithesi, anygh
Score: trump, donald, biden, democrat, joe, vote, better

Topic 16 Top Words:

Highest Prob: care, need, say, leader, go, one, lot
FREX: say, need, care, go, leader, talk, lot
Lift: accomplush, adject, bankrupth, bette, christan, corrupth, crooni
Score: care, say, need, leader, go, lot, talk
Topic 17 Top Words:
Highest Prob: tax, plan, deal, healthcar, rais, free, pay
FREX: healthcar, rais, increas, court, suprem, green, univers
Lift: 1bn, 21st, 4year, abotu, abrupt, abusive, act.recogn
Score: tax, healthcar, rais, plan, deal, court, increas
Topic 18 Top Words:
Highest Prob: time, trust, republican, vp, alway, opinion, decent
FREX: trust, opinion, select, vp, worthi, arrog, brain
Lift: abrasiv, brain, worthless, acquir, busness, camala, canad
Score: trust, time, vp, republican, decent, arrog, presidenti
Topic 19 Top Words:
Highest Prob: best, interest, human, everi, citizen, proven, minor
FREX: best, interest, human, citizen, proven, heart, statement
Lift: #metoo, abouth, actblu, addtional, affluent, againsr, allegations
Score: interest, best, human, everi, citizen, heart, proven
Topic 20 Top Words:
Highest Prob: presid, take, even, ever, follow, away, action
FREX: presid, take, follow, becom, even, serious, next
Lift: ambigu, aren't, astound, beacus, blurt, campeign, cleaner
Score: presid, take, even, ever, sure, away, becom
Topic 21 Top Words:
Highest Prob: make, want, america, work, great, tri, keep
FREX: want, promis, love, keep, make, great, america
Lift: jew, promis, love, #notmypresid, afloat, agress, americam
Score: america, want, make, great, promis, keep, work
Topic 22 Top Words:
Highest Prob: lack, experi, govern, respect, leadership, moral, charact
FREX: leadership, moral, charact, other, empathi, honesti, experienc
Lift: dignifi, ethic, honor, integr, leadership, misread, moral
Score: lack, experi, empathi, charact, honesti, experienc, moral
Topic 23 Top Words:
Highest Prob: mental, hes, health, concern, past, serv, capac
FREX: mental, hes, health, concern, past, physic, stabl
Lift: 40year, 47year, abilitytax, abiut, abortionheret, adherenc, agehi
Score: hes, mental, health, concern, past, capac, mine
Topic 24 Top Words:
Highest Prob: busi, social, posit, foreign, econom, media, secur
FREX: busi, social, posit, affair, domest, econom, foreign
Lift: abortionst, affair, agricultur, ahhs, airlin, alnd, analyt
Score: social, busi, foreign, econom, posit, secur, media

Topic 25 Top Words:
    Highest Prob: racist, liar, narcissist, histori, democraci, dishonest, sexist
    FREX: racist, liar, narcissist, sexist, sexual, unfit, bigot
    Lift: 12th, 40s, 50s, 5x, 6th, ableist, ablist
    Score: racist, liar, narcissist, sexist, sexual, misogynist, dishonest
Topic 26 Top Words:
    Highest Prob: covid, pandem, handl, respons, etc, immigr, scienc
    FREX: covid, pandem, handl, coronavirus, racial, equal, scienc
    Lift: 5th, akin, alignment, allfor, alloc, assassin, astronom
    Score: covid, pandem, handl, respons, scienc, etc, coronavirus
Topic 27 Top Words:
    Highest Prob: offic, elect, fit, complet, littl, idiot, capabl
    FREX: fit, idiot, hold, guy, evil, lesser, capabl
    Lift: illog, pos, sister, specialist, stick, stuck, taylor
    Score: offic, fit, evil, idiot, lesser, son, littl
Topic 28 Top Words:
    Highest Prob: que, de, y, el, es, un, la
    FREX: que, de, y, el, es, un, la
    Lift: ayuda, billionair, blanco, buena, clase, contra, cosa
    Score: que, y, el, es, la, los, para
Topic 29 Top Words:
    Highest Prob: economi, support, pro, strong, abort, law, life
    FREX: economi, pro, abort, wall, freedom, 2nd, amend
    Lift: antiabort, fewer, usmca, 0ver, 19pro, 2nd, aa
    Score: economi, pro, support, abort, polic, strong, militari
Topic 30 Top Words:
    Highest Prob: women, toward, attitud, someth, behavior, wrong, children
    FREX: women, attitud, someth, behavior, wrong, touch, level
    Lift: indecis, indirect, offput, rub, search, shoulder, sore
    Score: women, toward, behavior, attitud, wrong, inabl, someth
Topic 31 Top Words:
    Highest Prob: run, know, dont, bad, doesnt, puppet, mate
    FREX: run, dont, doesnt, mate, people, sometim, bit
    Lift: adgenda, advantage, advicate, advise, againstanyth, agendaand, agfrandiz
    Score: dont, run, know, mate, people, doesnt, bad
Topic 32 Top Words:
    Highest Prob: like, everyth, stand, old, valu, liber, harri
    FREX: old, liber, harri, senil, like, kamala, valu
    Lift: relate, administ, beneath, brute, chaos, cherish, disclos
    Score: like, everyth, stand, old, liber, valu, harri
Topic 33 Top Words:
    Highest Prob: us, feel, back, bring, race, togeth, redacted
    FREX: feel, bring, race, redacted, track, solut, occupation
    Lift: auto, bareesma, bring, cuban, fanci, hung, insincer

Score: back, feel, bring, us, redacted, togeth, race
Topic 34 Top Words:
    Highest Prob: also, show, may, extrem, dementia, clear, rather
    FREX: may, extrem, dementia, yes, younger, experience, least
    Lift: adaptable, addressing, allegationsmisogynyracisminterperson, alt, alzheim, alzhimer, anf
    Score: also, dementia, show, may, extrem, rather, least
Topic 35 Top Words:
    Highest Prob: right, well, nation, fact, anyon, look, actual
    FREX: well, fact, crazi, anyon, smart, nation, look
    Lift: somehow, candidacy.i, class.h, disqualifi, ghisalen, gibberish, idiom
    Score: right, well, nation, fact, anyon, look, smart