## Appendix A: Results

Table A1 presents tweet and user metadata characteristics stratified by pre- versus post-film time period and with differences presented using percent (%) change. Table A2 presents selected tweet examples. Table A3 presents text content characteristics stratified by pre- and post-documentary. Table A4 presents changes in average likes and retweets for text content categories, stratified by pre- and post-documentary*.*

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| **Table A1.** Tweet and user metadata characteristics. All tweets (n= 84,884) were collected between January 24th and May 17th, 2020. Characteristics are stratified by pre- versus post-film time period and sum across rows. Percent change between pre- versus post-film releaseis presented (“Δ”). Tweet characteristics are not mutually exclusive. Chi-squared and t-tests assessed differences pre-versus post-documentary (alpha=0.05). |
|  | **All Original Tweets****(n= 84,884)** | **Pre-documentary****(n= 25,351)** | **Post-documentary (n= 59,533)** | **Δ** **(% Change; Post – Pre)** | ***p*-value** |
| **Tweet characteristics** |
| Text content | *Question included (%)* | 14.89 | 18.83 | 13.21 | -29.85% | <.001 |
| *Link included (%)* | 79.53 | 81.37 | 78.75 | -3.22% | <.001 |
| *Statistic included (%)* | 1.01 | 1.77 | 0.69 | -61.02% | <.001 |
| *Tweet geotagged (%)* | 2.01 | 1.35 | 2.30 | 70.37% | <.001 |
| *Included at least one hashtag (%)* | 46.00 | 64.22 | 38.24 | -40.45% | <.001 |
| *Mentioned at least one user (%)* | 29.38 | 23.47 | 31.90 | 35.92% | <.001 |
| *Total hashtags used (mean #) †* | 3.66 | 4.11 | 3.34 | -18.73% | <.001 |
| *Total users mentioned (mean #) ††* | 1.40 | 1.56 | 1.36 | -12.82% | <.001 |
| Twitter engagement | *Received at least one like (%)* | 42.14 | 47.21 | 39.98 | -15.31% | <.001 |
| *Received at least one retweet (%)* | 25.68 | 32.15 | 22.93 | -28.68% | <.001 |
| *Tweets per day (mean #)* | 1,245.63 | 611.72 | 10,656.86 | 1642.11% | <.001 |
| *Likes per tweet (mean #)* | 8.62 | 9.44 | 8.27 | -12.39% | 0.3468 |
| *Retweets per tweet (mean #)* | 4.05 | 4.83 | 3.71 | -23.19% | 0.0512 |
| **User characteristics** |
| Social network | *Followers of user (mean #)* | 9,653.18 | 3,519.86 | 12,266.61 | 248.50% | <.001 |
| *Followed by user (mean #)* | 2,477.64 | 2,591.19 | 2,429.26 | -6.25% | 0.1243 |
| † Includes tweets containing at least one hashtag (n=38,722)†† Includes tweets mentioning at least one user (n=24,661) |

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| **Table A2.** Examples of early and popular tweets mentioning “plandemic”. Qualitative descriptions are provided for additional context in second column from left. Text topic categories correspond to tweet text classifications (see Table 5). All tweets were created between January 24th and May 17th , 2020. Tweets are organized in ascending order by date (specific dates removed for privacy); for comparison, a bold line demarcates pre- versus post-documentary tweets. Retweets and likes represent counts from when the data were pulled and may not reflect current likes/retweets. |
| **Tweet Text\*** | **Text Topic Categories** | **Retweets (#)** | **Likes (#)** |
| *‘Viral Out Break in China May Be Ten Times the Scale of SARS,’ An Expert Says. The Main Stream Media tells me that it’s dangerous. A #pandemic (a plandemic) 🙄 #Coronavirus is man made because it is a depopulation tool 😷 #BiologicalWeapon #ThesePeopleAreSick [ARTICLE LINK]* | * Mainstream media
* Nefarious cover-up
* Anti-vaccine
* Online media sharing
* Health impacts
 | 1 | 0 |
| *We should start calling the #coronavirus what it is: A PLANdemic. This plan has been in the works for a while now. It was patented many years ago and rehearsed last Fall in 2019. Research “EVENT 201”. 🐸🍵* | * Bill Gates & global elite
* Nefarious cover-up
 | 124*Highest in February* | 394*Highest in February* |
| *I wonder: Why won’t the mainstream media interview the tens of thousands of SURVIVORS of #coronavirus ? You would think that they would want to give people hope that there is a 98% chance of survival ... because they care about us so much, am I right? #Plandemic #WeDemandSurvivorStories*  | * Mainstream media
* Health impacts
 | 247 | 629 |
| *BAM. I found something online that ties the Ukraine Impeachment Investigation’s Key Witness to the White House Coronavirus Task Force. #GreatAwakeningWorldwide**#Plandemic [VIDEO LINK]* | * Deep state
* Political left
 | 997 | 1734 |
| *Host Trish Regan is fired by Fox News for exposing the plandemic to remove President Trump from the oval office. [ARTICLE LINK]* | * Alternate media
* Deep state
* Presidential Donald Trump
* Online media sharing
 | 7327*Highest in March* | 10272*Highest in March* |
| *I will NEVER forget the current time of American history. In the middle of an epic PlanDEMic, Speaker Pelosi awards herself with a raise, gallons of $13/pint ice cream, and punishes everyone else. She also gave the middle finger to small businesses.* | * Political left
* Economic impact
 | 5542*Highest in April* | 10723*Highest in April* |
| *Please watch and share the 1st installment of Plandemic the documentary, featuring Dr. Judy Mikovits @DrJudyAMikovits. Plandemic, the full-length feature documentary movie, is coming summer 2020. [VIDEO LINK 1] [VIDEO LINK 2]* | * *Plandemic* film
* Online media sharing
 | 0 | 3 |
| *PLEASE RETWEET! Long after his Presidency ended Barack Obama continues attending secret meetings with the architects of the Plandemic in Silicon Valley: Warren Buffett, Bill Gates, Anthony Fauci, and the World Commission !!! #StopTheSocialist4thReich [VIDEO LINK]* | * President Barack Obama
* Deep state
* Bill Gates & global elite
* Dr. Anthony Fauci
* Political left
* Online media sharing
 | 13338*Most Retweeted Tweet in Study Sample* | 14526 |
| *Do you want to know what kept me from watching the "Plandemic" online video? It was all of the people flooding social media demanding me to watch the "Plandemic" video. That was the red flag that the film was fake.* | * *Plandemic* film
* False information
 | 3663 | 24176*Most Liked Tweet in Study Sample* |
| *FREEDOM!!! Plandemic: The Documentary About A Global Plan To Take Control Of Our Life, Liberty, Health, and Freedom. #WWG1WGA**#Freedom #GreatAwakening #PlandemicDocumentary [VIDEO LINK]* | * *Plandemic* film
* Civil liberties impact
* Nefarious cover-up
* Global elite
* Online media sharing
 | 27 | 24 |
| *My mom questioned vaccines but had never looked much into them. It only took ONE video for my mother to be convinced about the corrupt vaccine industry: the Plandemic documentary with Dr. Judy Mikovits about Anthony Fauci!!! Now, my mom cannot stop researching the corrupt vaccine industry !!* | * *Plandemic* film
* Dr. Anthony Fauci
* Anti-vaccine
 | 0 | 0 |
| *Hey there Google/YouTube: your censoring of the video “Plandemic” only turned Dr. Judy Mikovits’ book into the #1 best-seller now -- this is called Barbra Streisand effect, stupid!**#GreatAwakening**#WWG1WGA* *#GreatAwakeningWorldwide**#WWG1WGA\_WORLDWIDE**[ARTICLE LINK]* | * *Plandemic* film
* Censorship
* Deep state
* Online media sharing
 | 5 | 4 |
| *We should all wear Guy Fawkes masks for face coverings out in public. They will protect just as much against the Hoax Plandemic!! @realDonaldTrump @GOPoversight @mattgaetz @GOPLeader @DrPaulGosar @SenateGOP @Jim\_Jordan* *[GUY FAWKES MASK IMAGE LINK]* | * Anti-containment
* Anti-pandemic
* Civil liberties impact
* Online media sharing
* President Donald Trump
* Political right
 | 85 | 91 |
| \*To protect the privacy of the content-creators, example tweets have been modified from their original text. |

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| **Table A3.** Percentages of major topics mentioned in our sample of tweets. All tweets (n= 84,884) were collected between January 24th and May 17th, 2020. Topics are organized using broader domains with sub-categories. Percent change between pre- versus post-documentary is presented in the right-most column (“Δ”). Chi-squared and t-tests assessed differences pre-versus post-documentary (alpha=0.05). Characteristics are not mutually exclusive. |
| **Domain** | **Category** | **% of All Tweets****(n= 84,884)** | **% of****Pre-Documentary Tweets****(n= 25,351)** | **% of****Post-Documentary Tweets****(n= 59,533)** | **Δ** **(% Change;** **Post – Pre)** |
| **COVID-19***42.93%;* *n=21,902* | *Plandemic film*  | 10.01 | -- | 14.23 |  |
| *Civil liberties impact* | 13 | 10.34 | 14.13 | 36.65% | \*\*\* |
| *Health impact* | 1.65 | 2.52 | 1.28 | -49.21% | \*\*\* |
| *Anti-containment* | 3.15 | 4.9 | 2.41 | -50.82% | \*\*\* |
| *Chinese virus* | 2.46 | 4.86 | 1.44 | -70.37% | \*\*\* |
| *Pro-containment* | 5.29 | 7.8 | 4.22 | -45.90% | \*\*\* |
| *Economic impact* | 3.92 | 6.54 | 2.81 | -57.03% | \*\*\* |
| *Neutral pandemic terms*  | 14.4 | 18.15 | 12.81 | -29.42% | \*\*\* |
| *Anti-pandemic terms* | 6.35 | 12.06 | 3.91 | -67.58% | \*\*\* |
| **Conspiracy Theories***28.98%; n=14,788* | *Nefarious cover-up* | 13.42 | 5.49 | 16.79 | 205.83% | \*\*\* |
| *Deep state* | 17.05 | 19.14 | 16.16 | -15.57% | \*\*\* |
| *5G Broadband* | 1.96 | 4.12 | 1.04 | -74.76% | \*\*\* |
| *Anti-vaccine* | 8.06 | 11.29 | 6.69 | -40.74% | \*\*\* |
| *Bill Gates & global elite* | 5.94 | 11.47 | 3.59 | -68.70% | \*\*\* |
| **Online Information***58.21%; n=29,697* | *Online media sharing* | 45.01 | 20.18 | 55.58 | 175.42% | \*\*\* |
| *Censorship*  | 3.31 | 0.82 | 4.37 | 432.93% | \*\*\* |
| *False information* | 4.05 | 2.76 | 4.6 | 66.67% | \*\*\* |
| **Politics & government***15.35%; n=7,832* | *Dr. Anthony Fauci* | 7.21 | 5.89 | 7.77 | 31.92% | \*\*\* |
| *President Barack Obama* | 2.03 | 0.56 | 2.33 | 316.07% | \*\*\* |
| *Political left* | 6.88 | 6.21 | 7.16 | 15.30% | \*\*\* |
| *Political right* | 0.74 | 0.76 | 0.73 | -3.95% |  |
| *Health officials and organizations* | 1.38 | 2.07 | 1.09 | -47.34% | \*\*\* |
| *President Donald Trump* | 7.54 | 8.91 | 6.95 | -22.00% | \*\*\* |
| **Media***2.09%; n=1,065* | *Mainstream*  | 1.03 | 0.44 | 1.29 | 193.18% | \*\*\* |
| *Alternate*  | 1.07 | 1.35 | 0.95 | -29.63% | \*\*\* |
| *\*p<.05; \*\* p<.01; \*\*\* p<.001* |

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| **Table A4.** Average likes + retweets for “plandemic” tweets by topic category. All tweets (n= 84,884) were collected between January 24th and May 17th, 2020. Percent change (Δ) is presented in column 7. Unpaired t-tests assessed differences in mean likes + retweets before versus after Plandemic’s release.  |
|  |  | **Pre-Documentary** | **Post- Documentary** | **Comparison** |
|  |  | **Likes + Retweets** **(Mean #)** | **SD** | **Likes + Retweets** **(Mean #)** | **SD** | **Δ** **(% Change;** **Post – Pre)** | **p-value** |
| All plandemic tweets | *14.27* | *1.45* | *11.98* | *0.95* | *-16.0%* | *0.1876* |
| **COVID-19***42.93%;* *n=21,902* | *Health impact* | 9.26 | 2.09 | 31.49 | 19.79 | 240.0% | 0.9174 |
| *Pro-containment* | 12.24 | 2.77 | 22.42 | 6.81 | 83.2% | 0.0697 |
| *Anti-containment* | 16.47 | 4.89 | 25.85 | 10.21 | 56.9% | <.001 |
| *Civil liberties impact* | 11.14 | 1.23 | 13.02 | 1.98 | 16.8% | <.001 |
| *Chinese virus* | 17.15 | 4.01 | 20.01 | 9.54 | 16.7% | 0.1645 |
| *Anti-pandemic terms* | 7.45 | 0.81 | 7.86 | 1.27 | 5.4% | <.001 |
| *Neutral pandemic terms*  | 12.43 | 1.72 | 11.39 | 1.63 | -8.4% | <.001 |
| *Economic impact* | 31.04 | 10.30 | 14.42 | 2.46 | -53.5% | 0.0009 |
| *Plandemic film*  | 131.75 | 103.91 | 12.66 | 1.97 | -90.4% | 0.0063 |
| **Conspiracy Theories***28.98%; n=14,788* | *Bill Gates & global elite* | 10.61 | 1.24 | 15.06 | 3.81 | 42.0% | <.001 |
| *Anti-vaccine* | 11.16 | 1.56 | 14.35 | 2.87 | 28.6% | 0.0592 |
| *Deep state* | 8.22 | 0.98 | 7.70 | 0.88 | -6.3% | <.001 |
| *5G Broadband* | 8.38 | 1.80 | 7.07 | 2.05 | -15.7% | <.001 |
| *Nefarious cover-up* | 12.24 | 2.62 | 7.20 | 2.86 | -41.2% | <.001 |
| **Online Information***58.21%; n=29,697* | *False information* | 7.61 | 1.53 | 17.25 | 3.76 | 126.6% | 0.0064 |
| *Online media sharing* | 5.80 | 0.83 | 9.82 | 1.11 | 69.4% | 0.001 |
| *Censorship*  | 11.49 | 5.42 | 13.81 | 2.40 | 20.2% | 0.0006 |
| **Politics & government***15.35%; n=7,832* | *President Barack Obama* | 3.39 | 0.98 | 29.54 | 20.23 | 770.3% | 0.0586 |
| *Health officials and organizations* | 9.87 | 1.84 | 15.05 | 7.78 | 52.5% | 0.0001 |
| *Dr. Anthony Fauci* | 14.30 | 2.44 | 20.72 | 6.58 | 44.9% | <.001 |
| *Political right* | 5.15 | 1.16 | 7.35 | 3.47 | 42.9% | 0.0008 |
| *Political left* | 19.97 | 4.01 | 19.05 | 6.91 | -4.6% | <.001 |
| *President Donald Trump* | 13.16 | 2.09 | 9.62 | 1.88 | -26.9% | <.001 |
| **Media***2.09%; n=1,065* | *Alternate*  | 8.18 | 2.00 | 6.62 | 2.76 | -19.1% | <.001 |
| *Mainstream*  | 7.05 | 3.53 | 3.42 | 0.72 | -51.5% | <.001 |