Hashtags scraped:

escobars
elfbar
pastelcartel
puffbar
juul
vuse
lostmary

We collected youtube metadata using two online scrapers. The first scraper we used was made by Bernhard Rieder, Associate Professor in Media Studies at the University of Amsterdam and researcher with the Digital Methods Initiative. It is called Youtube Data Tools [https://github.com/bernorieder/YouTube-Data-Tools]. The scraper had multiple functions, but the one we used was named “Video List.” The parameters we could search with were a channel id, playlist id, search query, or manual insertion of our own data. Each parameter would find videos and the videos' metadata based on what was typed into the parameter. We used the search query parameter because we wanted metadata for the hashtags #escobars, #elfbar, #pastelcartel, #puffbar, #juul, #vuse, and #lostmary. One by one, we inputted each query, set the maximum number of results to 500, and downloaded the metadata using an Excel sheet. The metadata included the number of comments and likes, hashtags, ids, names, and linked URLs. After receiving all the data and placing them into one spreadsheet, we manually sifted through the results and removed anything unrelated like music videos. After cleaning the dataset, it left us with fewer results than we wanted, so we decided to look for a better scraper. The second scraper we found was made by Bernard O, a full-stack developer. It was on the website Apify and is named Youtube Scraper [https://apify.com/bernardo/youtube-scraper]. The scraper only had one function, but was made up of multiple parts. We first had to input a search term that we wanted the scraper to scrape youtube for. We used the same search queries as above, except we added vape at the end of each query to ensure that all the results were vape or vape product related. After that, we typed in the number of results we wanted from the scraper, which was 500 per query. We then picked the option to allow for youtube shorts, streams, and subtitles. We also configured the proxy to be for the United States and gave about 4 gigabytes of memory for the scraper to use. After running it for the seven queries, we downloaded the metadata in an Excel document. Because of our precise queries and the improved scraper, we had to do very little to clean the data. It also gave us a good amount of videos per query.
After obtaining the correct amount of data from the second scraper, we had to download the videos and make their mp4 files. We decided to only use the videos from the second scraper as the data from the first scraper seemed unreliable and there wasn't enough of it. We had over 1,300 videos, so we needed an application that could download all of the files in bulk. That is when we found JDownloader 2 from Reddit, an app that could download large amounts of youtube videos with links at once. We had to use two of the website’s main functions to do this. First, we had to use Link Grabber, where we would copy and paste the URL links from the metadata Excel sheet. It would then scan through the links and give a long list of videos that can

be converted to a mp4 file. We then used the download function, which would download the videos one by one and put them into our computer's Download folder. With the download function, we could pick what to download, skip over repeated links, and the types of files we wanted. This process of downloading and separating the videos into folders took a couple of days, with the final total being around 280 gigabytes of video data separated into seven folders.

Hashtag	Number of Results	Number of Videos
escobars	405	214
elfbar	165	145
pastelcartel	482	162
puffbar	408	101
juul	488	316
vuse	455	267
lostmary	276	150

*results and videos vary due to duplicates being removed