

T. Oliver Conway

1 Synopsis

The goal of this project is to detect changing trends in opiate use through the use of natural language processing on Reddit. The database of Reddit comments is about 100gb per year. The general approach is to first restrict the dataset to opiate-related comments and then to cluster the remaining comments in some meaningful way.

More specifically, we first discard any comment that does not contain a known synonym for an opiate. Secondly, we use emerging topics from latent Dirichlet allocation to place comments into categories that we track over time. I go into more detail about these topics here:

2 Topics

(See OpiateAnalysis-LDA.ipynb.)

Using latent Dirichlet allocation with 10 topics on the corpus of all opioid-related reddit comments yields the following unlabeled topics (listed with their most indicative words):

- Topic #0: codeine spaceedge opium lean wiki promethazine wikipedia https otc pharma org en opieandanthony posts bulgakov mikhail car-fentanil reason online uk
- Topic #1: addiction people don use just need drugs make life think drug things want does medical doesn help like addictive person
- Topic #2: pain morphine doctor surgery doctors prescribed hospital meds patient patients didn gave chronic hydrocodone er given prescription oxycodone years day
- Topic #3: just like ve really oxy don know time good got day shit feel years think life going methadone ll did
- Topic #4: test que la weed meth cocaine narco el en syrup cough alcohol xanax mdma lsd hydrocodone adderall coke los valium

- Topic #5: time got left norco went hours home night little did later didn day took said room water old like came
- Topic #6: kratom dose high morphine methadone opiates like opiate tolerance heroin opioid withdrawal use effects day ve opioids doses taking just
- Topic #7: people heroin fentanyl drug drugs like know methadone just addicts don think money problem legal use users state make street
- Topic #8: fent fentanyl oxy like just mg pills dope pill 10 cut shit oxycodone 30 know heroin buy 100 pure good
- Topic #9: gt amp com www https comment http reddit comments post nbsp context schedule watch read 000 16 youtube account court

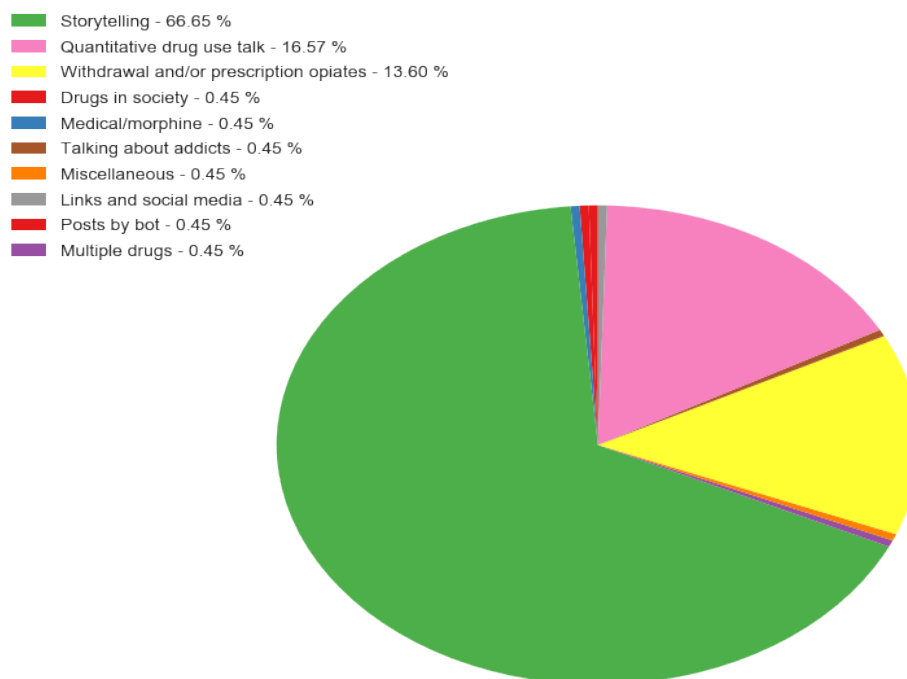
which I have labeled below by hand based off of the above indicative words and inspection of comments that heavily include a given topic:

- Posts by bot: codeine spaceedge opium lean wiki promethazine wikipedia https otc pharma org en opieandanthony posts bulgakov mikhail car-fentanil reason online uk
- Drugs in society: addiction people don use just need drugs make life think drug things want does medical doesn help like addictive person
- Medical/morphine: pain morphine doctor surgery doctors prescribed hospital meds patient patients didn gave chronic hydrocodone er given prescription oxycodone years day
- Storytelling: just like ve really oxy don know time good got day shit feel years think life going methadone ll did
- Multiple drugs: test que la weed meth cocaine narco el en syrup cough alcohol xanax mdma lsd hydrocodone adderall coke los valium
- Miscellaneous: time got left norco went hours home night little did later didn day took said room water old like came
- Withdrawal and/or prescription opiates: kratom dose high morphine methadone opiates like opiate tolerance heroin opioid withdrawal use effects day ve opioids doses taking just

- Talking about addicts: people heroin fentanyl drug drugs like know methadone just addicts don think money problem legal use users state make street
- Quantitative drug use talk: fent fentanyl oxy like just mg pills dope pill 10 cut shit oxycodone 30 know heroin buy 100 pure good
- Links and social media: gt amp com www https comment http reddit comments post nbsp context schedule watch read 000 16 youtube account court

3 Example comments

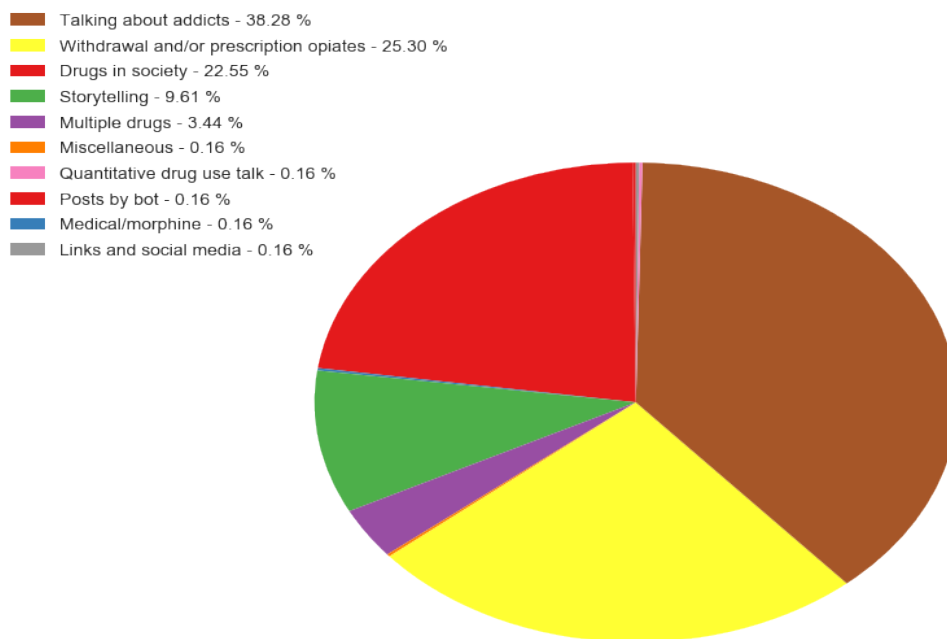
3.1 Drug use type discovery



Dude. I'd love to have some of those bastards. I haven't seen a damn scrap of oxymorphone in over 3 years. I just use orally and those are my DOC.

I've always just sucked on them and gotten high as shit (same with green OC80s). But I'm interested in this dissolving in coca cola thing. Sounds promising.

3.2 Someone pontificating on drugs

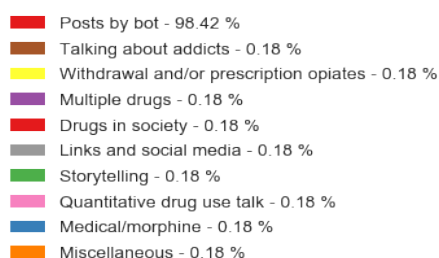


That's really cool that researchers were able to isolate the analgesic property from all the other undesired properties; many people assumed that this was impossible and therefore we would some day abandon the entire class for other drugs.

However, I wonder how society would react to a opioid that has no danger of overdose or dependency yet still got the user high. Basically loperamide that got you high. Oxycodone without the risk of overdose. Heroin without the withdrawals and the desperate actions that they inspire in users. Would it be scheduled? What's the purpose of scheduling drugs besides "protecting" the population against their dangers? Or is there some puritanical motivation behind it—we just can't abide by people making the decision to seek pleasure chemically.

Before the know-it-all's jump in, I am aware that the drug candidate in question, BU08028, was tested for reinforcing properties and found to have less than other drugs. That's good but it doesn't necessarily mean that it doesn't have psychoactive effects. LSD is a good example; animals won't go out of their way to redose themselves but it certainly has strong psychoactive properties. 75 down vote accepted

3.3 A bot



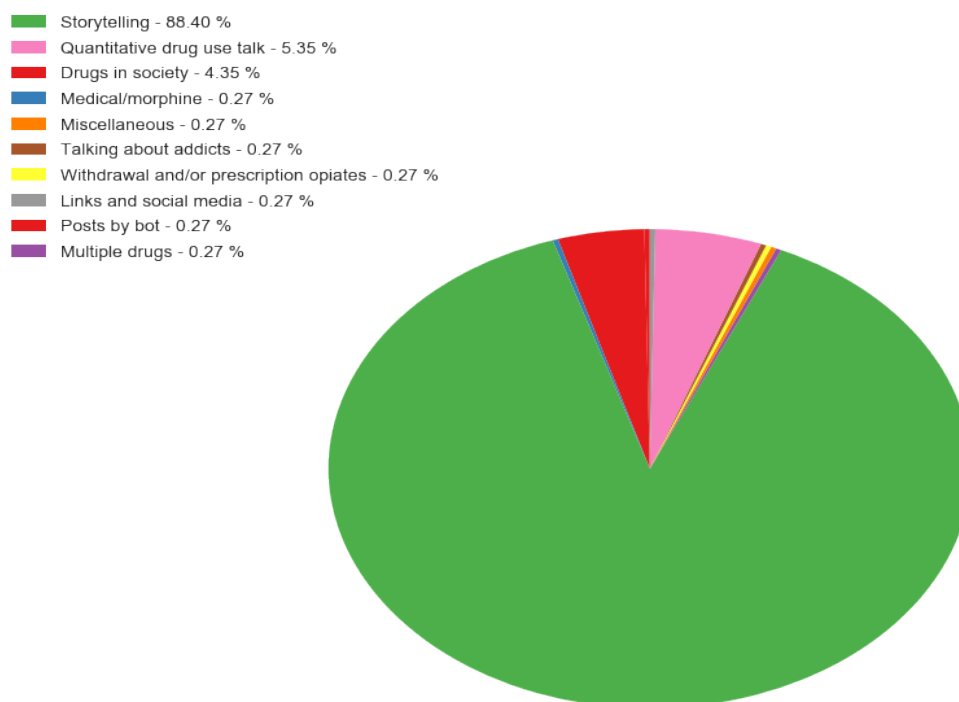
Hello /u/[A Username], ["lean" or "purple drank"](https://en.wikipedia.org/wiki/Purple_drunk) is just a mixture of the mild opioid [Codeine](<https://en.wikipedia.org/wiki/Codeine>) and the antihistamine [Promethazine](<https://en.wikipedia.org/wiki/Promethazine>). Its effects are not very different compared to other opioids. There's nothing special about "lean" at all other than being glorified in recent popular culture for no obvious reason.

Codeine is a scheduled drug in most countries and not available without a prescription.

You can easily find out more about Codeine by clicking the links above and visiting our resources linked in the sidebar.

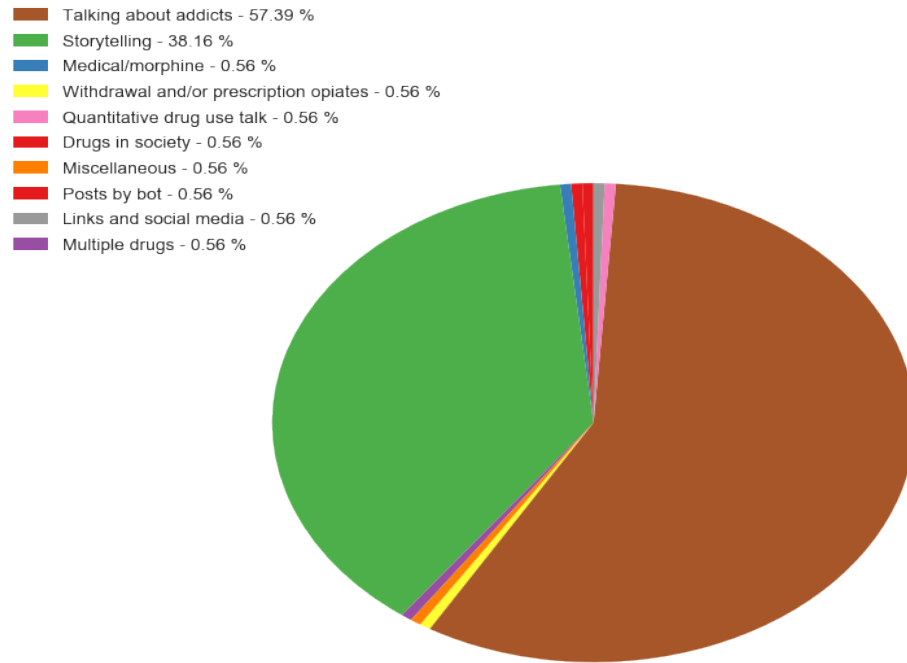
I am a bot, and this action was performed automatically. Please [contact the moderators of this subreddit](/message/compose/?to=/r/Drugs) if you have any questions or concerns.

3.4 Personal drug use story



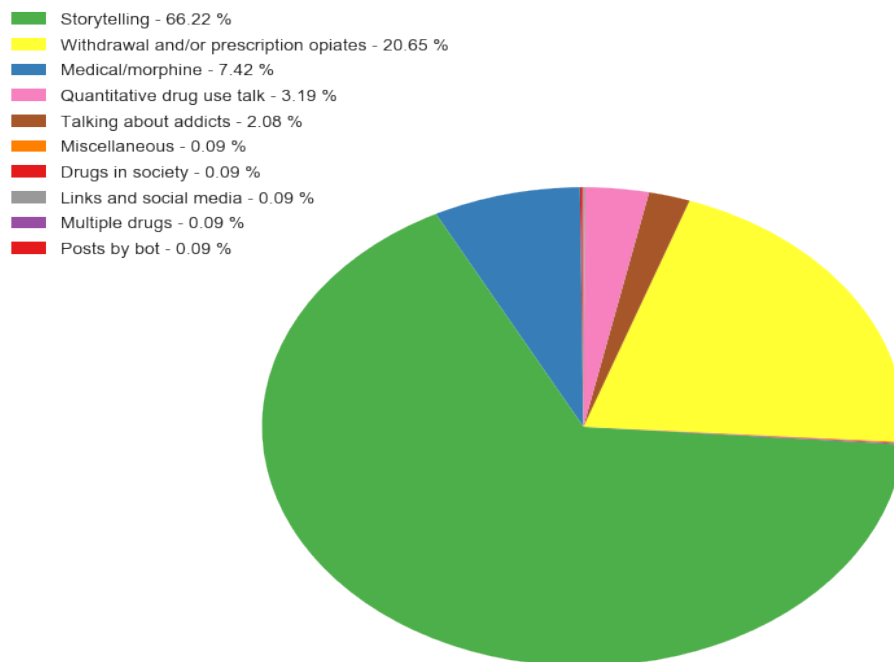
I wouldn't be able to but I could've. in the past while I've really deteriorated and now I can't do barely anything. I feel so worthless and useless. my whole point is that do I just die or should I just do something I love which is oxy even though it runs the very high chance of addiction. I know id throw my life away by doing it again, but id be throwing it away anyway if I killed myself. there's not much to throw. but I guess the hard part is actually maintaining the money for it and that's the only bad thing

3.5 Home town addiction description



From south Alabama. 1 rehab in my town. No needle exchanges. I was able to buy syringes from Walgreens but I was in my work clothes, haven't tried since. No exchanges and I'm pretty sure no narcans. We have a suprisingly number of methadone and suboxone docs tho

3.6 Withdrawal Pep Talk



I completely agree that it's prolonging the inevitable. You've gotta pay the price at some point and whether you do maintenance- I was on methadone for three years- or taper, you'll have to feel the w/ds at some point.

A couple weeks ago I went to detox and came off 30 mgs of methadone and a decent amount of heroin there. The first morning they gave me subutex since I agreed to their taper plan but honestly I felt way too comfortable and figured... Would I rather go through the worst in detox, or have to deal with the worst at home with money and connects? So I stopped the taper that morning and just took the 2 .5 ativans a day, .2 clonidine at night, and shit like Motrin. Yeah it fucking sucked and I went through a super rough withdrawal, the nurses were surprised I was walking and told me they were shocked I stuck it out and didn't leave, but feeling the pain of the withdrawals gave me more confidence in myself. I was pressured into detox and had zero intentions of actually staying clean at first but my mindset changed from icanthisthisicantdothisicantdothis to I CAN FUCKING DO THIS.

But yeah my point is that you're gonna have to feel it anyways, it's gonna

be shitty no matter what, so why prolong it? Ripping off the bandaide is a better option imo.

It also depends on what your intentions are, of course. If you want to be clean id suggest the cold turkey with some basic comfort meds. If you're not feeling ready, maintain or taper until you are - though as addicts, tapers rarely work because we say "tomorrow" and it turns into maintenance often- but know that there is no easy way to come off opiates.

Good luck!