

A Computational Analysis of Doomerism

Ali Raeisdanaei

December 8, 2022

1 Introduction

1.1 The Doomer as the archetype of a generation

Recently, many cultural archetypes have emerged, on the internet, to describe the modern generation and its world. These archetypes are not mere creations for comical purposes. They pose real and deep messages through their lore as much as the legends and archetypes of antiquity. Each character defines an aspect of the young person's existence and his interaction with the external world.

Of these archetypes, often referred to as the *Wo-jack*, the Doomer is the one that defines this generation of young people aged about 15 to 25. The Doomer, and by extension Doomer-girl, is someone who is doomed to live a meaningless life. This is the notion of Doomerism. The Doomer is hopeless, dark, and alone. His world is that of the dilapidated post-soviet blocks. He sees no sunlight, no tree, no love.

The use of iconography and specifically the Doomer as a cultural and social icon is studied by Karel Nĕmeček [7]. Karel Nĕmeček identifies powerlessness and meaninglessness as the predominant forces of Doomerism.

The Doomer is left with the problems, of social inequality, pollution, global warming, and everything else. He feels powerless against the world. Moreover, the Doomer feels unquenchable nihilism. His pessimism is inspired by the likes of Schopenhauer. The works of existential thinkers of past generations is reimagined in his new world.

1.1.1 Youth Emotional Loneliness

Depression and loneliness are not new to this generation, yet the relatability and virality of the Doomer icon seems to suggest that something has changed. This *something* may be in our collective culture, the external world, prospects, relationships, and so on.

Young people are the loneliest demographic ever. This has been proven by multiple sources [12] [10] [3] [11] [5] [9] [6] [2]. In particular, Statistics Canada has identified those aged 15-24 as the loneliest demographic in Canada [2].



Figure 1: The Doomer

1.1.2 Significance

There exists a very dark icon that is gaining relevancy and become viral on the internet. Young people are identifying more and more with this character. Young people are also the loneliest demographic world-wide. By not understanding what the Doomer is, we are potentially ignoring a major problem amongst young people.

1.2 Research Question

Thus, it is important to understand what Doomerism is. This is by itself is rather a trivial question; one can understand the elements of Doomerism by viewing a small subsample of its uses as icons.

This project aims to understand where Doomerism fits in with loneliness and depression. How is the composition of themes of Doomerism different from that of loneliness and depression in general? Is Doomerism a novel cultural archetype of a different era, or is it a new expression for long-existing phenomena?

1.3 On the Shoulder of Giants

This subsection will peruse the existing work to solidify how this project builds on literature in a novel way.

Karel Němeček’s work is a theoretical analysis of memes and Doomers as social and cultural icons [7]. This project wishes to quantify the themes and causes in a computational method through textual analysis.

To study the causes of loneliness, Fardghassemi interviewed a group of 48 young adults from London’s most deprived boroughs. The interviews were manually analysed for themes and causes of youth loneliness [8]. This work wishes to compete with the interview style analysis of young adults at a higher scale. Scraping the internet, particularly the Reddit’s subforum, /r/rDoomer, can produce a higher number of personal accounts of substantial length at a lower cost.

Guntuku has a similar approach, in which she uses NLP to analyse the themes of twitter users posting about loneliness [4]. This work wishes to use her approach to answer a cultural question about the novelty of Doomism.

Antie Andy has also studied loneliness on Reddit [1]. Andy studies the words used by users in loneliness forums as compared to other forums to identify themes amongst the users. The approach here is similar, yet the scope of study is not just restricted to loneliness.

1.3.1 The Delta

The approaches of cultural and psychological studies mentioned will be combined with textual analysis and computational techniques. The aim is to understand a psychological question through analysis of a cultural and social product.

2 Methodology

2.1 The Data

The best place to study the Doomer is its subforum on Reddit, /r/Doomer. To compare the Doomer with other similar categories, the subforums of, /r/lonely, /r/loneliness, and /r/depression were also scraped.

All the data was filtered for posts that were of greater length than 500. The data is described in table 1.

2.1.1 The Users

The users of the internet, Reddit, and specifically these Subreddits, skew towards young, English-speaking, males. Some posters include their age and gender information. This is really rare, but to understand the users, this information was extracted using regular expressions. The results of this can be seen in tables 2 and 3.

2.2 The Commonality of the users

The users of these Subreddits were generally unique. That is, only a few Doomers posted in the other forums.

The number of unique users of each of the Subreddits were greater than a thousand; however, the

common users between the Doomers and the other Subreddits were very low. There were only 13, 6, 14 common users between /r/Doomer, /r/lonely, /r/loneliness, and /r/depression respectively.

The greatest number of common users were actually not between /r/lonely and /r/loneliness, 31. The greatest commonality was between /r/depression and /r/lonely, 161, suggesting that lonely people are generally depressed and vice-versa.

There were no common users between all the Subreddits. Only 2 common users existed between /r/Doomer, /r/depression, /r/lonely, and Only 2 common users between /r/Doomer, /r/depression, /r/loneliness.

Subreddit	Number of Posts with Ages	Average Age Found
/r/doomer	253	21.26
/r/lonely	787	23.09
/r/loneliness	456	23.55
/r/depression	1368	22.47

Table 2: Ages of Users

Subreddit	Number of Posts with Genders	Males	Females
/r/doomer	7	5	2
/r/lonely	12	10	2
/r/loneliness	7	5	2
/r/depression	18	14	4

Table 3: Genders Found

2.3 Approach

To start off, the posts were manually examined by a human to identify some causes and themes from the different Subreddits. This approach is similar to Fardghassemi’s analysing of the interviews [8].

When the causes have were identified from the manual approach, a list of terms was identified. These terms will be analysed for their frequencies in a similar approach to the work of Guntuku [4].

Thirdly, a composition of the causes are created for each category, as the measure of the frequency of the terms in the corpus of posts. This data could be used to train a model to classify a Doomer from the other categories understanding the individual post diversity of the categories and their similarities.

3 Results

3.1 Manual Inspection

A sample of these posts were read to identify the themes and causes present in the categories. A sample of 50 posts from both /r/Doomer and

Subreddit	Number of Posts \geq 500 words	Average Post Length	Earliest Post	Oldest Post	Number of Users
/r/Doomer	2921	1275.15	2019-04-22	2022-11-15	1764
/r/lonely	4860	1228.02	2022-09-13	2022-11-17	3759
/r/loneliness	2754	1489.41	2011-11-09	2022-11-15	2252
/r/depression	8811	1336.82	2022-02-28	2022-11-15	8168

Table 1: Metadata

/r/loneliness were read. 20 posts were read from /r/lonely and /r/depression.

3.1.1 Themes of /r/Doomer

Doomers are predominantly male, young, and single. There are lots of mentions of school and some accounts of their actual age and gender.

The largest theme that arose from the sample reading were themes of **nihilism** and **doom**. One can argue that these are not separate entities; nihilism seems to be a subset of doom, and doom seems to be a subset of nihilism. Yet, doom encompasses more than just nihilism. Doom is the notion that the world is hopelessly going to be extinct. Our civilisation is bound to collapse, and the Doomers see it clearly. The world is doomed, and the Doomers are the outcasts who are first experiencing this. Thus, their nihilism can be seen to arise from this doom. There was a simple poetry to the doom of the Doomer; a sample of this is given in section 5.

The second-biggest theme that arose from the manual inspection was **loneliness** and *no gf*. I will be using this term to refer to being single (having no girlfriend). This term is not only an abbreviation, it's an esoteric term that signifies the obsessiveness of the Doomers towards their being single. It is also an indicator of the very male centric phenomenon of Doomerism. The Doomers blame not having sex as an evidence of them being doomed.

There are two comical tropes that explain this. The first is the Doomer finding the Doomer girl, the exact female counterpart of the Doomer, and them being *doomed* together. The sample of posts inspected did have females, but they are rare. It is an elusive dream or a joke within this community of ever finding the Doomer girl. In fact of the top posts of /r/reddit, there is one of a Doomer couple holding hands.

The second feature that displays the comedy and obsession of the Doomers with girls and sex is the idea of a state mandated girlfriend. The Doomer is so doomed and their problems so prevalent in the youth, that the only plausible intervention by the government is to issue girlfriends.

Other causes found in the inspection include **suicide**, **a bad childhood**, **a dead end job**, and to lesser extents issues of **mental health** and **drugs**. The two latter causes were least relevant to the sample Doomer posts inspected.

3.1.2 Themes of loneliness forums

The sample posts inspected between the two Subreddits, /r/lonely and /r/loneliness, were identical in themes.

The lonely uses are an older group. They are slightly more likely to be female, in a relationship, or even married. From the 50 posts in the Doomer set, there was not a single mention of being in a marriage. The Doomer looks up to marriage as a naive, traditional embodiment of the good life-the *undoomed* life as it were.

The lonely person seems to be dealing with issues that are simpler and more natural to the human condition. Their friends are growing distant as they age, they cannot find new friends, romantic partners, have gone through breakups, and so on. Therefore, the first cause of loneliness identified were **relationship issues**.

The other themes identified were issues of **social issues**. The users mentioned their being too shy and introverted to change anything. There were also mentions of **unlovability**. The users might have been in a marriage, yet they felt emotionally alone. Their souls and beings were not cared for as they would wish.

The loner posts had more mentions of hope and lights at the end of the tunnel. They had some sense of optimism for how they can, or in the least, should change things. The Doomer's identity comprises a deep, dark core of nihilism and doom. The Doomer is simply not lonely, they are *doomed* to be lonely and unloved.

3.1.3 Themes of /r/depression

The users of this Subreddit were far more **medical** than any of the other users. In fact, they seemed to be taking steps towards the right direction, but still having some problems. They mentioned medications or therapy, and ways they are trying to remedy their diagnosed problems.

Many of the posts mentioned **issues and responsibilities** that they were dealing with. A breakup or a death in the family was very common.

There was also an **emotional emptiness**. Many users described their emotions in terms of being sad, having or lacking pain, energy, or motivation. The theme of **suicide** was mentioned here as well but not to the extent of /r/Doomer.

3.1.4 Conclusion of Manual Inspection

Although, all the problems the users of these Subreddits were dealing were serious and need of attention, there were degrees to their *troubles*.

The Doomer is, by far, the most dark and nihilistic of the other groups. A human reader should be able to accurately classify an unknown post as a Doomer given its distinct darkness. In this regard the doomer really is distinct.

3.2 Frequency Analysis of Themes

The posts were analysed for their frequencies; the word-clouds produced by each of the Subreddits can be seen in section 5.

Motivated by the themes identified in the manual inspection, a list of keywords that would identify these themes were compiled. They can be seen in table 8. These words were then searched through the corpus of posts by using regular expressions.

The number of words found from a given them was then expressed as a percentage of all the keywords matched. In such a way each category received its composition as a percentage of causes, the results of which can be seen in table 4. Other visualisations of these compositions can also be seen in section 5.

The results of these compositions support the findings of the manual inspection. The Doomers are much more nihilistic and the users of /r/depression more medical. The theme of doom was only seen, unsurprisingly, by the Doomer. However, this was still a low percentage of composition for the Doomer. The Doomer is more nihilistic than he is obsessed with the *doom*.

The prevalence of drugs is much less than suggested by [4]. The two loneliness forums were similar in compositions as suggested by the manual inspection. Both have much higher levels of loneliness as compared to the other categories.

In all other themes, the categories were very similar.

While the frequencies of the themes support the manual inspection, they do lose the unique darkness of the posts of the Doomers in comparison with the other categories.

3.3 Classification of Individual Posts

The composition of the categories was used as a vector. This is the column of each category in table 4. The same approach of finding the prevalence of keywords by themes were used on individual posts. This prevalence was also used as a vector to measure the similarity of the posts to the average posts of each category.

The similarity function used was a modified version of the euclidean norm: in this function, the components of the vectors that were different across the categories had a higher degree. The modification to the euclidean norm was done to increase the accuracy of the results.

Then a post would be blindly classified to the category in which its composition was most similar. The

results of this classification can be seen in table 5. This approach shows us the individual deviation of the posts and if the Doomer can be correctly classified individually against the other categories.

The results of this show that individual posts of Doomers are mostly similar to the users of /r/depression. It also concludes that Doomer's are a diverse set of individuals who are both lonely and depressed; however, there is a group, albeit small, that exhibits more nihilism and doom than the other categories. There was an equal similarity to the composition of Doomerism across the Doomer's posts to the loneliness forums.

Interestingly, the Doomers were more similar to the users of the depression forum, than the users of the depression forum to the Doomers.

To check the similarity of the two loneliness forums, the classifier checked the similarity of individual posts in each category to the other. Its results can be seen in table 6. Both of the categories were almost identical to each other. The model was not better at guessing them over a random classifier.

A binary classification was also performed to test if the categories were distinct from the others. The composition vectors of the other forums were averaged as being the *other*. For the two loneliness forums, the two composition vectors were grouped together, as motivated by table 6. The results of the binary classification can be seen in table 7. The binary classification was not very accurate for any of the categories, suggesting that all were very similar to each other. This is expected, as the forums and the users concern themselves with similar issues of mental health.

However, if Doomerism was expressed by any of the other categories, a mixture of loneliness and depression, the results would have shown a 50% accuracy. The model predicted it slightly better than random, showing that Doomerism is not juts loneliness and depression. It is something distinct, but its distinction is to the others as loneliness and depression are to the others- it is a small distinction.

	correct pred.	in- correct pred.	binary accu- racy
/r/Doomer	1948	1053	0.65
/r/lonely	3264	1714	0.66
/r/loneliness	2059	743	0.73
/r/depression	6632	2358	0.74

Table 7: Results of binary prediction based on the composition of themes

4 Conclusion

There were four pieces of evidence to determine what Doomerism is in comparison with depression and loneliness. These evidences were based on the analysis done on posts from four Subreddits, /r/Doomer, /r/lonely, /r/loneliness, and /r/depression.

themes	/r/Doomer	/r/lonely	/r/loneliness	/r/depression
nihilism	18.09	9.53	9.23	12.48
doom	2.61	0.21	0.13	0.28
suicide	3.87	3.03	2.98	3.98
alone	16.73	29.96	32.34	14.35
medical	5.71	5.71	5.52	11.83
relationship	12.78	15.31	14.24	10.70
childhood	10.29	8.57	9.05	11.58
job	5.43	4.26	4.10	6.25
mental health	10.76	8.59	8.36	16.11
drugs	2.15	0.73	0.78	1.21
social issues	6.81	10.75	9.95	5.94
responsibilities	4.77	3.34	3.32	5.29

Table 4: Composition of Themes by Percentage

	/r/Doomer	/r/lonely	/r/loneliness	/r/depression	no match found
/r/Doomer	1213	291	466	1031	15
/r/lonely	712	860	2330	1076	11
/r/loneliness	336	533	1496	437	3
/r/depression	2230	867	1059	4834	13

Table 5: Results of simple prediction based on the composition of themes. The horizontal axis represents the category predicted. The vertical represents the actual category. Some posts had no keywords and were included in no matches found.

Firstly, the users of all /r/Doomer were unique, but so were the other Subreddits to each other.

Secondly, the manual inspection of a sample of the posts from the four Subreddits suggested that the Doomers were more nihilistic and concerned with the collapse of society, *the doom*. Also, the users of the depression forum, posted more medical terms. The Doomers are overwhelmingly and identifiably dark in comparison with the other categories.

Thirdly, the frequency analysis determined the exact themes that compose each of these social and mental health issues. Its results correlated with that of the manual inspection, yet they did not find any other significant differences in the overall themes. Also, the significance of the *doom* was not as large as suspected. Similarly, the use of drugs as a theme was also comparably low across all the categories.

Fourthly, the individual posts of each Subreddit were very divergent, especially that of the Doomers. The Doomers are very similar to the users of /r/depression.

4.1 Discussion

Given the virality and reaches of the doomer icon in internet culture, Doomerism is an emerging mental health and social problem plaguing the youth. It is important to know what it is, and understand its place within well studied problems.

4.2 Limitations and Threats to Validity

Only Reddit and these Subreddits were studied. The external validity of this approach is questionable;

however, using Reddit was an appropriate choice for studying a cultural icon from the internet relating to the youth. The users had almost no diversity; the female user base was very small, and other identities almost non-existent. Thus, part of the result of understanding Doomerism, concludes that it is mostly a male issue.

The keyword selection is a naive approach to compose the themes of a problem. The term "alcohol" could have had a different connotation and context in the post than what was counted. Given the size of the corpus however, this effect should be small and evenly spread across the categories compared. The frequency analysis lost a lot of the semantics and sentiments of the posts. The posts are much more identifiable given a better process. Although the keywords were motivated by the manual inspection, many of them could have encoded assumptions and biases that have skewed the results.

No steps were taken to filter out for the quality of the posts. The posts from Reddit have a vote rating that could have been used to give different weight to themes expressed by the community.

Of course, this has many confounding complications, algorithmic and human. The guidelines, rules, and administration of Subreddits are notoriously brutal, and they could have skewed the data in a major way.

The use of bots in these forums were not a huge problem. These forums are more serious, and posts have already been filtered for a significant enough number of words.

	/r/lonely	/r/loneliness	accuracy
/r/lonely	2648	2330	0.53
/r/loneliness	1306	1496	0.53

Table 6: Results of binary prediction between the loneliness forums

4.3 Further Steps

The data spanned across the COVID-19 pandemic. Therefore, a longitudinal analysis could be useful for future work to determine the changes of particular themes and causes due to the global effects of the pandemic.

More sophisticated natural language processing tools can be used to more accurately measure the composition of the themes for analysis. As well, the classification algorithm could be improved upon by more sophisticated models and features of the data.

4.4 Ethics

The issue of ethics was closely guarded for this research. The people in consideration for this research are vulnerable groups; therefore no data created for this research has been shared. Moreover, all notes created for the analysis of these posts have also been made private. For the most part, identifiable features of the posts were hidden and not discussed.

All the data, that was used, are made public by

the users themselves. The users are sharing these posts for others to read and comment on; thus, in a way, giving informed consent. Free software and widely available scrapers were used to retrieve that data. Any person could have access to the posts made by these users.

4.5 Acknowledgments

I thank my great friend Ali Samani, the psychology major turned data scientist, for giving me great pointers for my data science work.

I thank Lina Marsso for giving me great advice and showing me where to look for things.

Furthermore, I also thank Lina’s great friend Victoria Oldemburgo de Mello for pointing me to some related research that really helped.

4.6 Software Used

All the software used for this project is available here, and is free to other researchers github.com/aliraeisdanaei/Doomer_Analysis.

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5 Appendix

5.1 Poetical Excerpts from Doomers

The prophetic vision of the holy executioner finally begins to take shape and unfold Nothing remains to view the final breaths of a dying star many eons after all signs of life ceased their existence on the surface of our beautiful planet leaving behind a still silhouette of memory of a once magnificently brilliant world The prophetic vision of the holy executioner finally begins to take shape and unfold where the monochrome deafening silence echoes throughout the remnants of what was our beautiful world.

An exiled hermit
 These desolate plains I roam
 From the cosmic infancy
 I float like a lost comet
 Drifting through empty space
 Deprived of self
 I find solace within painful memory
 Of my sadistic lover,
 Life
 The ghost of ecstasy
 Lurking in the sorrows
 Which belong to me alone
 To serve as the gate to the firmament
 And contain the flames of agony
 In which I’ve forged the poisoned knife
 With which I’ll put the suicidal god

Out of its eternal misery
 Before abandoning the heavens
 Consumed by the flames of my passion
 Casting a shadow to eclipse the sun
 Burning brighter than the morning star
 At the edges of the dawn
 To break free from the chains of blind
 devotion
 devouring the minds of man
 That shall signal the inevitable collapse
 of tyranny
 Of paradise and hell
 Born out our asymmetry
 In ascendancy

5.2 Charts Regarding the Results

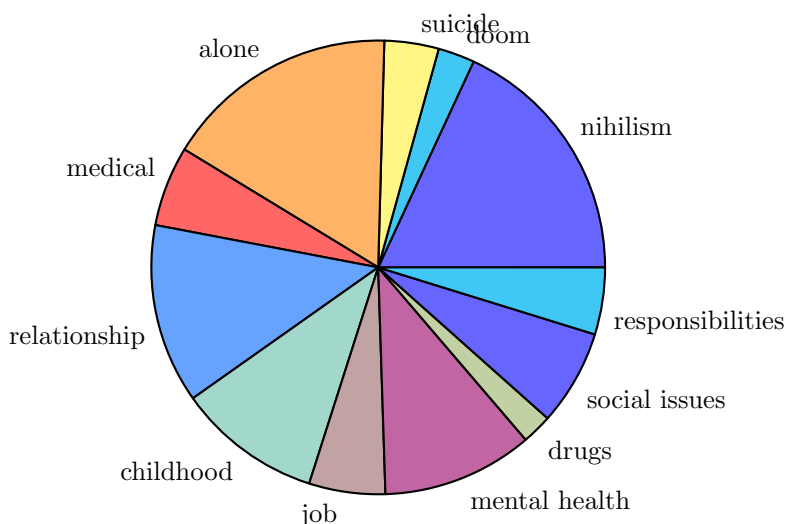


Figure 2: Composition of /r/doomer

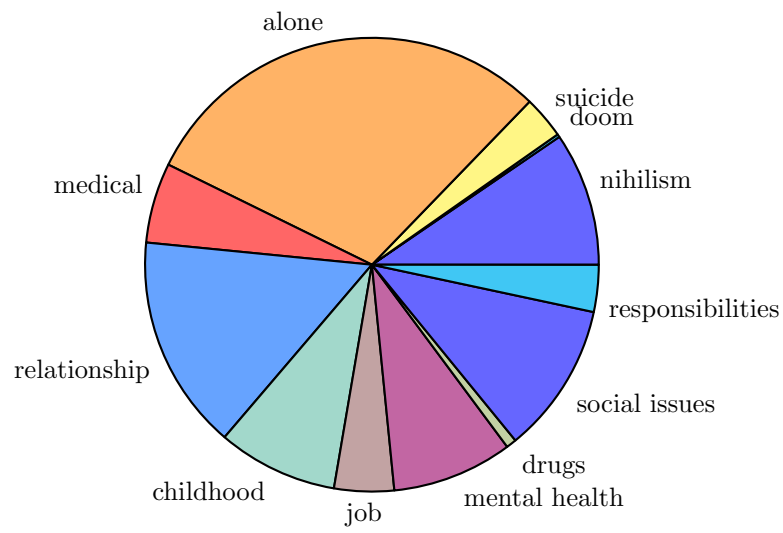


Figure 3: Composition of /r/lonely

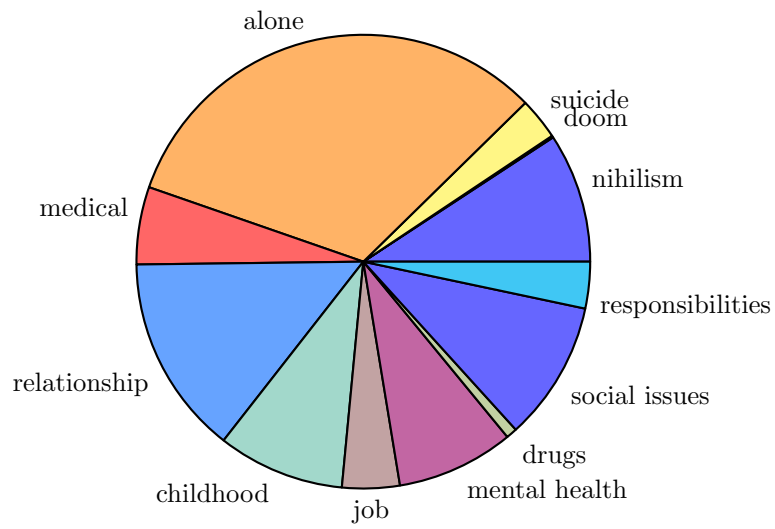


Figure 4: Composition of /r/loneliness

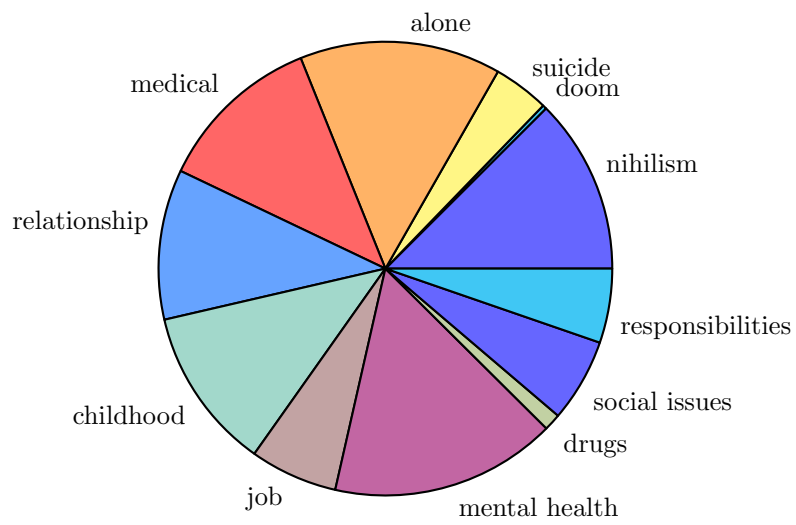


Figure 5: Composition of /r/depression

5.3 Frequency Word Clouds



Figure 6: Frequency Wordcloud /r/doomer



Figure 7: frequency wordcloud /r/lonely



Figure 8: Frequency Wordcloud /r/loneliness

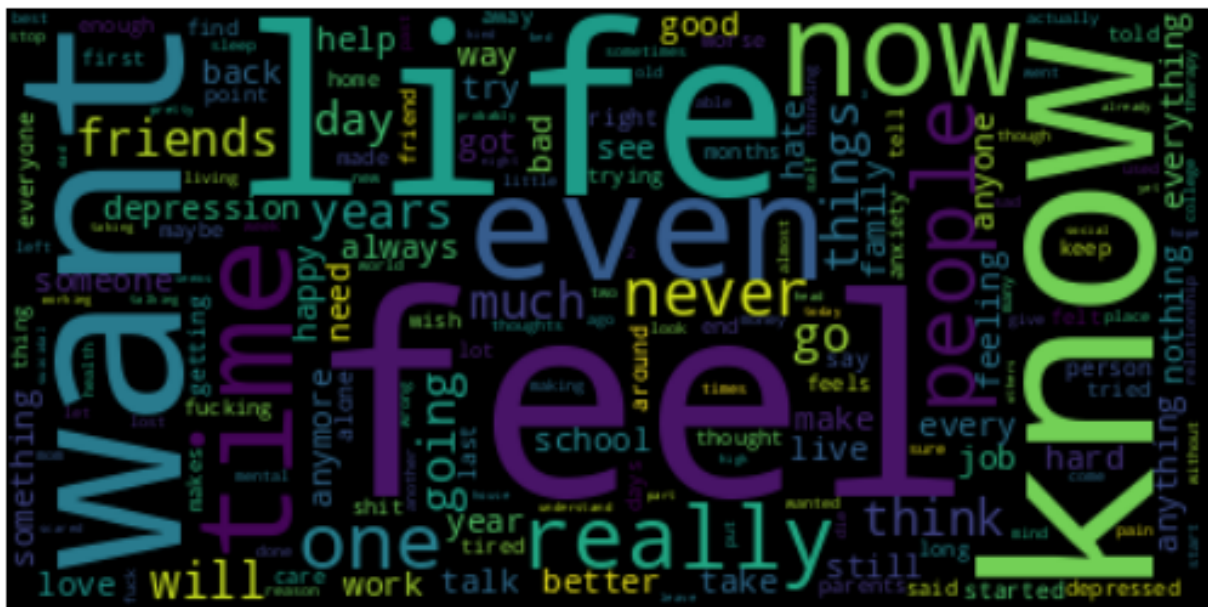


Figure 9: frequency wordcloud /r/depression

5.4 Themes and Keywords

themes	keywords
nihilism	nihil, dark, hopeless, meaning, nothing, empty, death, life, nonsense, bleak, reason, pessimis, worth
doom	doom, collapse, brutal, survive, consciousness, conscience, extinction, clown, climate, ecology, destitute
suicide	suicid, kill, kms, hang
alone	lone, friend, isolated, island, people, presence, nobody, social, bore, boring
medical	medical, mental, health, issue, diagnos, medication, pills, anxiety, psycholog, help, therap, disorder, episode, gender, dysphoria, surgery, mg, lexapro, doctor, neurology
relationship	gf, bf, sex, coom, wank, porn, girl, boy, slut, hore, kiss, edging, virgin, love, masturbat, simp, woman, women, relationship, hug, dating, date, intimacy, girlfriend, boyfriend, fiance, husband, wife, breakup, marriage, divorce, understanding, parent, cheated
childhood	child, abuse, neglect, mom, parents, dad, mother, father, mum, school, course, college, university, grade, teacher, professor, youth, young, recess, class
job	job, work, occupation, career
mental health	mental, depress, diagnos, anxiety, anxious, harm, smile, happy, happi, toxic, emotion, energy, sad, pain, ache, happy, happiness, motivat, unlove, uncared
drugs	drug cig, drunk, drink, smoke, weed, alcohol, booze, crack, coke, cocaine, hemp, marijuana, cannabis, intox
social issues	social, shy, timid, talk, support, insecure, rejection, awkward, fit, society, conversation, abandon, extroverted, introverted, unattractive, ugly
responsibilities	responsibl, death, family, pass, job, miscarriage, victim

Table 8: Table of the Keywords that identify a given theme