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Hidden Hate: Analysis of Hate Speech on a Darknet Forum

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ABSTRACT

Research relating to hate speech and the darknet have both grown significantly in the previous decade. Nonetheless, there is a dearth of empirical research exploring how hate speech manifests within the darknet, the groups targeted. This study seeks to fill this gap in the literature by investigating the different targets of hate speech within the darknet forum Dread and how posts within this forum are affected by hate motivated events. Through analysis of posts (n = 1,047) 3 months before and after major hate-motivated events, this study finds that approximately 13% (n =135) of posts in our sample contain hate speech targeting several groups. In addition we also examined the variations in targets between forum-specific subjects (internal) and targets outside of the forum (external). Our findings suggest that there is limited conversation surrounding hate-motivated events discussed in mainstream media on Dread. However, instances of hate speech, predominantly targeting religious, racial, and gender-related groups, are present at a lower percentage in comparison to research conducted about hate speech on social media platforms.

Introduction

Over the last two decades advancements in telecommunication technology have shifted both public and private communications online. In many cases the dissemination of content which has been categorized and labelled as hate speech has benefitted from the limited restriction on content being generated on the internet during the early twenty first century. While for most of the twenty first century content on the internet and the largest social media sites has largely gone unchecked, there have been some efforts to curtail content related to the most extreme hate speech and drugs on these sites. These efforts have included the implementation of content moderation and filtering, resulting in deplatforming multiple users from social media platforms and the expulsion of entire communities from forums like Reddit (Logie & Das, 2024). While some communities and users have adjusted to

this new reality by using coded language and memes (Hermida & Santos, 2023; Karim et al., 2023), other communities and users have created new niche communities on the darknet. One of the darknet forums which was created as a safe haven for many of these deplatformed users and communities was the Dread darknet forum, which has been described by its creator and first administrator in 2017 as a haven for free speech (see Supplementary Appendix A).

Current research into hate speech has shown that individuals and communities who choose to remain on mainstream social media platforms have resorted to coded language and memes to remain in compliance with these platforms policies. We know that many of the other users and communities like drug buyers and sellers have migrated to the darknet, based on studies that have focused on darknet marketplaces and darknet forums. Research in this environment has also shown that darknet forums, such as Dread, have been used as a place for criminal learning (Logie & Das, 2024). One understudied area relating to the post on Dread is the immediate impact highly publicized events have on the posts within the forum. Also, research on the darknet has yet to determine whether individuals on the Dread darknet forum engage in hate speech and whether the traditional targets of hate speech have remained the same in this space. Additionally, while there is literature about how offline events impact the language of sub-forums and online groups (Chetty & Alathur, 2018), this has yet to be explored within the context of the darknet.

Our research will examine the Dread darknet forum posts which are not restricted by the typical mainstream platform policies and moderation. To conduct this research we used manual content analysis to identify particular instances of hate speech and supplemented these results with automated content analysis to identify the most prominent themes when hate speech is used on Dread. For this study, we will look at how hate speech manifests within posts containing hate speech on Dread. In addition, we consider if or how it changes due to 7 specific offline events between 2018 and 2023, and how the groups targeted within the forum itself differ from groups targeted outside of the Dread forum. Our analysis of the posts found that users do not reference major offline hate crimes discussed on social or legacy media in the aftermath of the event or following the immediate aftermath of similar events in the future. Our results also show that when hate speech is used to target members of the forum (internal), the attacks are most likely to be based on their perceived sexual orientation or race. Meanwhile, when the targets of posts containing hate speech are not members of the forum (external), Dread users target these individuals and groups based on their perceived religious, national origin, or racial identity.

Literature Review

To most acutely describe the prevalence and change in hate speech on a darknet forum, it is important to first identify what hate speech is, and the biases motivating different types of hate speech. Hate speech can be designated as "bias-motivated, hostile, and malicious language targeted at a person or group because of their actual or perceived innate characteristics" (Siegel, 2020, p. 57). Additionally, Sigurbergsson and Derczynski (2019) characterized hate speech, "as language that is targeted towards a group, with the intent to be harmful or cause social chaos" (p. 2). These

characterizations of hate speech are similar to Caines et al. (2018) who defined hate speech found in hacker forums as being "characterised as prejudicial diatribes to provoke action, perhaps violent, against a group or groups" (p. 67). For this study, we considered hate speech as negative and/or malicious language used against a person or group solely due to their perceived identity or perceived characteristics. While some researchers would argue that this fails to delineate "hate speech" from "offensive speech," (Davidson et al., 2017; Kocoń et al., 2021), negative language towards a group oftentimes holds a significant relationship to behavioral change or hateful action (Arcila Calderón et al., 2024; Cahill et al., 2019; Perry et al., 2020).

The role of the internet and its connection to online hate speech is another contributing factor to the importance of this research. This is highlighted in Brown (2018) who examines the distinct attributes of online hate speech in contrast to offline hate speech, emphasizing the unique features of the online environment. The internet provides users with anonymity, invisibility, community, and instantaneousness, all of which produce unique and harmful effects when used to distribute hate speech. The internet is frequently utilized as a platform for individuals with similar beliefs to connect, including those with hateful ideologies like racism, fostering a transnational sense of community and giving rise to global racist communities (Bliuc et al., 2018).

Research conducted on online hate speech has also extensively looked into the roles of platforms. Online social media websites such as Gab (Mathew et al., 2019), and Twitter (Burnap & Williams, 2015; Watanabe et al., 2018), subforums such as those on Reddit (Grover & Mark, 2019; Rieger et al., 2021; Weinberg et al., 2025), and more niche chat rooms such as Stormfront or Telegram (Meddaugh & Kay, 2009; Weinberg et al., 2024), all have been researched extensively to determine their role in hate speech targeting different groups. The examination of the environment in which online hate speech takes place has additionally facilitated a deeper comprehension of how each environment fulfills specific functions, such as drawing in audiences, functioning as an echo chamber for the most radical voices, or establishing an online in-group identity. The location in which the hateful communication occurs further contributes to our understanding of online hate speech as the platform serves a role.

Religiously-Motivated Hate Speech

Online hate speech that stems from religious motivations is a pervasive issue and has been studied extensively. Previous research has highlighted the connections between online and offline incidents of hate, such as those targeting religious minorities (Awan & Zempi, 2016). Academic research focusing on online, religiously-motivated hate speech has investigated a wide range of targets including Jews (Weinberg et al., 2025; Zannettou et al., 2020), Muslims (Albadi et al., 2018; Awan & Zempi, 2016), Christians (Ramponi et al., 2022), Hindus (Edwards, 2017), among others.

Comparatively, there have been few articles that research how religiously-motivated hate speech has translated onto the darknet. Studies such as Topor (2019) have analyzed the different features of antisemitic speech on the darknet. Topor (2019) examined how antisemitic activity manifests on the darknet in places like marketplaces, blogs, chatrooms, and social networks. On these platforms he found antisemitic

conspiracies and tropes, propaganda and texts such as *Mein Kampf* and *Protocols of the Elders of Zion*, and different types of slander and disinformation directed at members of the Jewish community. Further, Kaján (2017) linked anti-immigrant rhetoric on the darknet to repeated use of offensive rhetoric towards Islam. Kaján (2017) found common use of generalization and "othering" of Islam as a backwards and violent faith, propagating negative sentiment towards individuals seeking asylum in Europe since 2015. These findings regarding offensive rhetoric have corresponded with significant increases in hate speech targeting religious and racial minorities in Europe in the past decade (*European Union Agency for Fundamental Rights*, 2021). With increased focus on social action and litigation to crack down on hate speech online (Gagliardone et al., 2015), hate speech is likely to migrate or adapt, increasing the use of implicit language, coded language and images, and anonymous networks like the darknet (Costello & Hawdon, 2020; Weimann, 2024).

Racially and Ethnically-Motivated Hate Speech

In addition to religious groups, individuals in racial and ethnic minority groups commonly experience hateful rhetoric offline and online. Hate speech targeting race and ethnicity has been widely discussed by scholars and defined using a variety of terms. For the purpose of this study, racially and ethnically-motivated hate speech is explained using cyber-racism, which is an all-encompassing term used to discuss all forms of racial hate throughout online networks. Cyber-racism is defined as "any form of communication *via* electronic or digital media by groups or individuals which seeks to denigrate or discriminate against individuals (by denying equal rights, freedom and opportunities) or groups because of their race or ethnicity" (Bliuc et al., 2018, p. 76).

Through cyber-racism, people of color, particularly Black individuals, are persistently dehumanized and de-individualized through the internet (Tynes et al., 2018). A recent study found that 21% of Black youth in the US have experienced harassment due to their race (Vogels, 2022). Additional minority groups who have been targeted include the Asian community, which spiked during the COVID-19 pandemic (Dubey, 2020). The effects of online racism include detrimental psychological outcomes (i.e. anxiety, depression moods, and low self-esteem) on racial/ethnic minority groups (Scott & Barlett, 2023). Cyber-racism is pervasive, operating as a "never-ending pipeline" allowing people of color to constantly experience racism due to their repetitive exposure online (Keum & Miller, 2017, p. 311). Online racist encounters produce a persistent electronic record, one that is publicly available to a large audience, creating room for further victimization through comments, likes, sharing, meming, gaming, and much more (Tynes et al., 2018).

The literature finds that groups communicate racism through platforms such as group websites, group forums, and games (Bliuc et al., 2018). These internet platforms are used by those with racist ideologies which creates a transnational community allowing international racist communities to develop a sense of belonging with other like-minded individuals (Bliuc et al., 2018).

Although the majority of cyber-racism has been found and amplified throughout social media platforms such as Twitter, Facebook, Instagram, and YouTube (Al-Rawi, 2021), there remains limited discussion around cyber-racism that occurs or translates

to the darknet. However, recent trends show individuals engaged in cyber-racism embracing and utilizing *dark social media* platforms which have the following characteristics: (1) platforms which allow content that is considered to be harmful (e.g. drugs, cyberbullying, and hate speech); (2) platforms which provide anonymity to its users; and (3) platforms which limit public access to user generated content (Al-Rawi, 2021). In addition, Al-Rawi (2021) has suggested that these platforms are utilized by internet users who failed to alter their online messages in response to content moderation and community guidelines or by those who have been banned from mainstream social media sites such as Reddit and Facebook. Specifically, Telegram is considered the most popular dark social media network which is an encrypted instant messaging mobile application that was originally created to hinder the government's ability to perform surveillance of communication (Cook, 2018; Rogers, 2020). Al-Rawi, 2021 study on posts from 15 far-right Telegram channels show that this dark social media platform is centered on White individual's "perceived grievances and discussions on conservatism followed by minorities as the problem" (p. 821). The conversation around dark social media platforms is important when understanding where cyber-racism has shifted to after regulations were implemented on mainstream social media platforms. Although literature has found racist or far-right extremist language on dark social media platforms, there remains limited discussion on the occurrence of cyber-racism on darknet platforms such as Dread, who is being targeted, and how, creating a current gap in the literature.

Sexist-Motivated Hate Speech

Online hateful rhetoric also extends to an individual's sex and predominantly targets women online. We recognize that the identity of "woman" transcends biological sex, but as we will cover transphobic and gender identity-based hate speech as a separate category, this section will focus on hate speech targeted towards women under the label of "sex" and "sexism." The most common manifestations of sex-based online hate and harassment include sex-based hate speech, cyberstalking, and rape threats (Powell & Henry, 2017). Hate rooted in gendered stereotypes and the sexualization of women in offline society is then translated into the digital world as well (Fox et al., 2015). According to Powell and Henry (2017), online sexual harassment and cybersexism operates to reinforce "heterosexual and patriarchal norms" which function as a form of social control (p. 190). Victims of sexist hate speech online, similarly to the other populations in this study, can experience psychological and emotional trauma which can then lead to anxiety, depression and the withdrawal from online spaces (Powell & Henry, 2017).

Discussions around online hate speech against race and sex have been intersected to explain health and relational harms caused to the victims (Tjon Soei Len & de Ruijter, 2023). This leads to the interplay of race and sex in the targeting of victims online for hate speech, fostering an environment for intersectional oppression and discrimination. When an online community does not discourage sexist hate speech, it can foster an environment where misogyny is normalized and threats of rape and other forms of violence are accepted (Powell & Henry, 2017).

LGBTQ+-Motivated Hate Speech

According to the Gay and Lesbian Alliance Against Defamation (GLAAD,) 2024 Social Media Safety Index (SMSI), the internet remains an unsafe and threatening environment for the Lesbian Gay Bisexual Transgender Queer+ (LGBTQ+) community. The SMSI scores popular social media sites on their ability to protect LGBTQ+ users from hate speech, harassment and discrimination on a scale of A+ (a perfect score) to an F (the worst score). In 2023, Tiktok had the highest score of a D+while Facebook, Instagram, YouTube, Threads, and Twitter all scored an F (GLAAD, 2024). Even with the inclusion of anti-discrimination policies on these platforms, this report finds that "shocking, dehumanizing" anti-LGBTQ+ posts and language continues to increase without clear intentions to stop this hate (GLAAD, 2024, p. 14). This paper will focus on hate speech on the darknet, however with limited literature on this topic relating to anti-LGBTQ+ hate speech, public social media and sites are the only source for analyzing relevant research.

Hate speech online can result in harmful consequences for the communities targeted, whether the intention was to harm or not. Research has found that specifically in the LGBTQ+ community, hate speech has resulted in a negative impact on self-esteem, psychological distress, silencing and restrictions on movement due to fear (Nyman & Provozin, 2019). This is similar to the experience of women who face sexist hate speech online, but with a few key differences. "Silencing" due to online hate speech is the limiting of an activist or community members' ability to express themselves in the online environment, typically resulting in keeping their identity and communications online more private and restricted (Nyman & Provozin, 2019). Silencing can also lead to a hesitancy or refusal to report hate speech online to authorities to have it prevented or removed, which also results in a feeling of helplessness for the victims of this language and threat. This fear is also born of the real possibility of online hate speech becoming offline hate crime violence, hence the restriction on travel freedoms (Nyman & Provozin, 2019).

Transphobic hate speech online in the past few years has become more prevalent on social media as it takes center stage politics as well as other social issues. A common manifestation of transphobic hate speech online is the framing of this community as "mentally ill," "mentally confused," "freakish" and corrupting tradition (Keighley, 2022, GLAAD, 2024; Keighley, 2023; Keighley, 2024). The label of "pedophile" and "groomer" have become common slurs for LGBTQ+ people overall and has manifested in physical violence as a means of saving children in hypothetical danger (GLAAD, 2024). Building on this idea of transgender people being a threat to children, another common materialization of transphobia online is the idea of "indoctrination" and "gender ideology" (GLAAD, 2024). Characterizations of transgender people as proponents of an agenda which is "turning" people trans or queer in general, has created even more fear around the community. Our observations of hate speech against members of these communities currently comes from public sites. This paper will explore how this preexisting hate is manifesting on the Dread darknet forum.

Darknet Research

Studies conducted on the darknet over the last decade have covered a range of topics including drugs (Maras et al., 2023; Martin et al., 2020), guns (Broadhurst et al., 2020; Lee

et al., 2024), harm reduction (Logie et al., 2023), knowledge sharing (Logie & Das, 2024; Maras et al., 2024), and crime-as-a-service (Logie & Maras, 2024). These studies have focused on a variety of platforms and services including marketplaces, shops, financial exchanges, and forums. They have however not addressed the presence of hate speech within darknet forum posts. The aim of this study is to shed light on hate speech within the Dread darknet forum by analyzing Dread forum posts containing hate speech.

Online Forum Research

Online Forums have been investigated by several researchers to better understand criminal activities. These studies have occurred both on clearnet forums and darknet forums. The clearnet or what is commonly referred to as the world wide web is the indexed part of the internet which is accessible using internet browsers like Safari or Google Chrome. Unlike the clearnet, the darknet is an unindexed internet segment, unused by most internet users, but actively employed by a select group of users (Logie & Das, 2024). Access to the darknet is facilitated by specialized browsers which are capable of accessing darknet networks like Tor, Freenet, or I2P, enabling users to maintain anonymity and evade detection (Logie & Das, 2024; Maras et al., 2023).

Researchers have also examined both general purpose forums which cover multiple interests and niche forums which are dedicated to specific subject matters. Select studies of online forums have covered the use of aggressive language on hacker forums (Caines et al., 2018), communities of practices and learning environments (Maras et al., 2024), harm reduction (Logie et al., 2023), fentanyl (Garg et al., 2021; Spadaro et al., 2022), and elderly fraud (Logie and Das 2024). While these studies show the insights gained from conducting research into darknet forum activities, several limitations have also been identified when conducting research in this environment. One of the constant challenges faced by all darknet researchers is the constant need to update data collection software to adapt to darknet websites updates.

Researchers analyzing general forums (Reddit) and darknet marketplaces (Alphabay 2) have found that only 3% to 25% percent of user posts are related to a specific niche topic (Garg et al., 2021; Logie et al., 2023; Spadaro et al., 2022). This however is not the case when researchers examined a forum dedicated to a specific topic. Holt et al. (2008) found that most posts in the sex work forum was dedicated to the stated purpose of the forum. However, when Caines et al. (2018) examined aggressive speech in specialized hacker forums they also concluded that aggressive speech is mild within hacker forums in comparison to the comment section of certain internet Wikis. These studies may indicate that when forums are not the focus of the topic being researched they may be present within the forum at low levels in comparison to other topics discussed in the forum. Finally several studies have determined approximately 25% of all social media content can be categorized as hate speech with 12% of this content being explicit hate speech while 13% of the content is implicit hate speech (Kaakinen et al., 2018; Schmitz et al., 2024)

Current Study

Dread is one of the oldest operational forums on the darknet established during the first quarter of 2018 after the deplatforming of several groups and individuals from

Reddit. Dread was founded on the principle of free speech with few exceptions which are outlined in their community guideline sections (see Supplementary Appendix A). "Its founder and early adopters also perceived it as necessary to allow free speech without censorship to continue" (Logie & Das, 2024, p. 6). Unlike many of the most notable forums currently operating on the darknet, Dread is a general purpose forum with sub-forums (sub-Dreads) dedicated to a variety of topics (e.g. hacking, drugs, fraud, country specific forums, libertarianism, harm reduction, and general discussion) (see Supplementary Appendix B). Membership is not required to access the content posted in the Dread forum. It does require membership to be an active participant; post in sub-Dreads, write comments on posts, purchase sponsored posts or ads, and access the Dread store. Like many other darknet marketplaces and forums, Dread has been funded primarily through donations, the sale of ads, and the sale of promotional posts.

Dread was selected as the forum for analysis based on: (1) being a general purpose forum which allows for individuals with a variety of interest to gather an interact; (2) having approximately 422,000 registered members and 2,200 public sub-Dread forums as of January 2025 (See Supplementary Appendix B); (3) being listed on several darknet index sites (Tor Taxi, Darktrain Express, and Dark Eye); (4) very few topics are banned by the forum's rules (See Supplementary Appendix A); and (5) used as a forum of analysis in recent studies (Logie et al., 2023; Logie & Das, 2024). In comparison many of the other forums active on the darknet and listed on darknet indexing sites focus on topics like hacking (Crypto BB), or drugs (Breaking Bad) while also having a smaller number of registered users, and have not been in operation as long as Dread.

Data & Methods

We used qualitative methods to examine the themes and content of Dread forum posts related to specific search terms (see Table 1) and within a specific timeframe of the following events: (1) Hamas Attack on Israel—October 7th, 2023, (2) Tree of Life Synagogue Shooting—October 27th, 2018, (3) El Paso Walmart Shooting—August 3rd, 2019, (4) Buffalo Shooting—May 14th 2022, (5) Christchurch Mosque Shooting—March 15th, 2019, (6) US Withdrawal from Afghanistan and Abbey Gate Bombing,—August 26th, 2021, and (7) Club Q Nightclub Shooting—November 19th, 2022. The collection of posts was limited to a 6 month timeframe (3 months prior to the event and 3 months after the events). This timeframe was selected to observe whether there was discourse about the events on the dread forum. The keywords selected for the search during the timeframe are associated with hate speech, considered to be polarizing topics, and are not ambiguous when used in the context of hate speech. This

Table 1. Search terms used to identify relevant forum posts.

Search terms
october 7th, hamas, tree of life synagogue, el paso walmart, buffalo, christchurch mosque, us withdrawal from afghanistan, club q, pulse night club, killing of matthew shepard, asian hate, gay, lgbt, female, muslim, racist, feminism, jew, jewish, homosexual, hate, george floyd, pig, protest, masculinity, groom, woman, women, gun, shoot, antifa, blm, nationalist, christian, catholic, nazi, supremacist, hindu, extremist, synagogue, church, mosque, swastika, islam, and jihad

allowed us to retrieve posts related to hate speech within the forum. Our initial findings showed that hate speech was present during these timeframes, however the hate speech observed were results from the search terms, while there were a negligible number of posts obtained by using the names of the 7 events. The data collected was utilized to answer the following research questions:

1. What are the themes present in hate speech related posts?
2. Which groups are being targeted within the forum (internally) and outside of the forum (externally) by Dread users with hate speech?

Data Collection

The Dread forum is currently hosted on the Tor network which is part of the darknet, and utilizes .onion web addresses instead of the conventional .com or .org addresses. Accessing Dread on the Tor network was achieved using the Tor browser, a modified version of Firefox designed to be compatible with .onion pages (Maras et al., 2023). Utilizing a customized Firefox browser offers the added benefit of using browser extensions that are created for the regular Firefox browser. When selecting an extension for data collection, consideration should be given to the format the data needs to be collected in, and whether a manual or automated process is required. The professional version of FireShot software which has a webpage-to-PDF capture function was used. Dread data has been previously collected by Logie and Das (2024) and they found that using a paid version of a browser extension ensures that you are utilizing an up to date, well maintained extension, that allows web pages to be collected and saved in multiple formats. We decided that PDFs would be the most appropriate format to save the collected webpages. While we were able to collect the data for our research without any issues, we acknowledge that the operational lifespan of darknet research software is often limited; its future availability, compatibility with the Tor browser, consistent functionality across all darknet sites, and maintenance of current features cannot be guaranteed.

Following the recommendations of Logie and Das (2024) we created a Dread account and observed the layout and features of the forum. These observations included accessing several sub-Dreads and observing the available data and structure of posts. We then utilized a list of search terms which included 7 highly publicized events to retrieve posts written 3 months before the event and 3 months after the event included any of the search terms (see Supplementary Appendix C). The Firefox extension FireShot was used to save the posts as PDFs.

Data Parsing

The PDFs were arranged in folders based on the event associated with the data collection. However, several events overlapped which created duplicate original post records. We first converted the PDFs to HTML files using an Adobe script which allowed us to utilize a python program created by Logie and Das (2024) to parse and clean the data. Using the python program the original posts were extracted from the

PDF and placed in a database. First the original post, name of the sub-forum, author of the post, title of the post, and the file the data was parsed from was placed in the "Original Post" database table. Our data collection from the 7 events resulted in 1,145 original posts being extracted from the HTML files.

Once the data was extracted from the HTML files, we started the data cleaning process by removing duplicate posts. This resulted in 1,047 original posts being available for coding and analysis. We then manually coded the data based on 10 themes; 8 hate speech criteria and 2 environmental references. The criteria used to code environmental references were: (1) "internal" if the target of the hate speech was a group or member of the forum and (2) "external" when the target of the hate speech was a public figure or an individual or group from the real world. We also coded the data based on an author's specific bias against a group or perceived group the target of the post belonged to: (1) Religion (Anti-Buddhist, Anti-Catholic, Anti-Eastern Orthodox, Anti-Hindu, Anti-Islamic or Muslim, Anti-Jehovah's Witness, Anti-Jewish, Anti-Church of Jesus Christ, Anti-Multiple Religions, Anti-Other Christian, Anti-Other Religion, Anti-Protestant, Anti-Sikh, and Anti-Atheism/Agnosticism), (2) Color (Anti-color of skin, eyes, and/or hair), (3) National Origin/Ancestry (Anti-Other Race/Ethnicity/Ancestry), (4) Sexual Orientation (Anti-LGBTQ+), (5) Sex (Anti-Female or Anti-Male), (6) Gender Identity (Anti-Gender Nonconforming or Anti-Transgender), (7) Race (Anti-American Indian or Alaska Native, Anti-Arab, Anti-Asian, Anti-Black or African American, Anti-Hispanic or Latino, Anti-Multiple Races, Anti-Native Hawaiian or Other Pacific Islander, Anti-Other Race, and Anti-White) and (8) Disability (Anti-Mental Disability or Anti-Physical Disability). These biases were defined in Table 2 using the Uniform Crime Report's Hate Crime and Data Collection Guidelines and Training Manual Criminal Justice Information Services (CJIS) Division Uniform Crime Reporting (UCR) Program (2022). Two reviewers coded each category for the data for the 10 criteria. Once the coders completed their coding independently, the coders met to discuss any discrepancy in the coding.

Table 2. Bias categories defined by the uniform crime report's hate crime and data collection guidelines and training manual (2022).

Religious bias	"A preformed negative opinion or attitude toward a group of persons who share the same religious beliefs regarding the origin and purpose of the universe and the existence or nonexistence of a supreme being, e.g., Catholics, Jews, Protestants, atheists" (p. 13)
Color bias	"A preformed negative opinion or attitude toward a group of persons who possess common physical characteristics, e.g., color of skin, eyes, and/or hair" (p.11)
Ancestry bias	"A preformed negative opinion or attitude toward a group of people based on their common lineage or descent" (p. 11)
Sexual Orientation bias	"A preformed negative opinion or attitude toward a person or group of persons based on their actual or perceived sexual orientation" (p. 15)
Gender bias	"A preformed negative opinion or attitude toward a person or group of persons based on their actual or perceived gender, i.e., male or female" (p. 10).
Gender identity bias	"A preformed negative opinion or attitude toward a person or group of persons based on their actual or perceived gender identity, e.g., bias against transgender or gender nonconforming individuals" (p. 28)
Racial Bias	"A preformed negative opinion or attitude toward a group of persons who possess common physical characteristics … genetically transmitted by descent and heredity which distinguish them as a distinct division of humankind, e.g., Asians, Blacks or African Americans, Whites" (p. 12)
Disability Bias	"A preformed negative opinion or attitude toward a group of persons based on their physical or mental impairments, whether such disability is temporary or permanent, congenital or acquired by heredity, accident, injury, advanced age, or illness" (p. 9).

After reviewing the coded data to resolve discrepancies between the coders, the intercoder reliability score was calculated. The intercoder reliability score for the 1,047 original posts coded manually was 0.986 using the Holsti method. The authors then rechecked the coded data and the datasets used in the content analysis to ensure there were no errors in the data.

We then utilized Intellectus 360 Qualitative content analysis software to identify themes in the original posts meeting at least one of the coding criteria. This allowed us to not only identify posts which include hate speech, but also observe the other themes present in posts containing hate speech on Dread. The results of our manual and automated content analysis are presented in the following sections and include examples of posts containing the coded themes.

Plan of Analysis

We utilized content analysis to answer our 2 research questions. We first identified search terms associated with hate speech in the literature and hate-motivated incidents since 2018 based on media coverage. Using these search terms and hate-motivated events we identified posts that were likely to be hate speech. Additionally, we attempted to identify posts with hate speech against members of the forum (internal) or individuals outside of the Dread forum (external). Finally, we analyzed not only the specific groups targeted by hate speech but also more generally the issue discussed in posts that contained hate speech.

We built upon the lessons learned from other studies that have analyzed darknet forums utilizing content analysis. Similar to prior studies that have relied on manual and automated content analysis, this study combines these methods to first identify instances of hate speech and then gain insight into the thematic elements of the posts which contain instances of hate speech. There have been several studies that employed social network analysis along with manual or automated content analysis. We believe that the application of manual, and automated content analysis is enough for identifying posts containing hate speech and themes linked to these posts on the Dread forum.

Content analysis software has made significant progress in the use of Natural Language Processing to draw inferences from text features which was not achievable by this type of software in the early 2000s (Liddy, 2001). Utilizing software like Intellectus Qualitative, Atlas TI, or Dedoose in qualitative analysis requires users to check and refine the inputs provided to the software, and adjust the assumptions used by the software to produce results. Content analysis software packages all need to be used as tools with researchers carefully reviewing the results generated for errors and inconsistencies. The input data uploaded to the software should be refined by the researchers to improve the quality of the results generated by the software.

Intellectus Qualitative which is a new content analysis software was used to supplement the results of the manual content analysis. Despite the proprietary and protected nature of the models used to generate results, Intellectus Qualitative, like other content analysis software, is required to function based on natural language processing principles. First, any software utilizing a natural language process requires the model to understand human language by analyzing grammatical structure, and

the results should be generated based on the relationship between sentences and their placement in paragraphs, along with their placement in the body of the text (Frank, 2024; Umber & Bajwa, 2011). Additionally, Natural Language Processing also takes into account the combination of keywords, emotions, symbols and concepts to gain insight into key themes and identify excerpts from the text used to develop an understanding of the text (Khurana et al., 2023; Liddy, 2001). For optimal results when using a natural language processor, extensive data cleaning should be performed before the data is processed. Researchers using natural language processing should also conduct a thorough review of both data used as input and results generated by the content analysis software at each stage of the process. This review serves to assess the reliability of the process and its results, identifying any errors produced by the content analysis software or introduced by input data containing errors.

In 2024 Intellectus Qualitative has been used in at least 6 research projects (Andrito, 2024; Bower, 2024; Frank, 2024; González-Doğan et al., 2024; Meyer, 2024; Pepper, 2024; Robinson, 2024). Intellectus Qualitative has been described as an "AI-driven auto-coding technology" (González-Doğan et al., 2024, p. 5). It is primarily designed to allow researchers to analyze unstructured data by leveraging proprietary artificial intelligence and machine learning models. While these models are used the company emphasizes that the program results are a blend of human insights and machine learning to improve a researcher's qualitative results. Specifically, the program is capable of performing inductive and deductive reasoning to conduct thematic analysis, coding, and intercoder reliability. The training videos and the work from other researchers have emphasized that regardless of the method used researchers need to check the codes and excerpts extracted before utilizing the results. Some researchers only utilized Intellectus Qualitative to generate themes and excerpts from the responses to particular research questions from survey data and user generated codes inputted into the software (Frank, 2024). In our research Intellectus Qualitative is used to identify themes in the data coded by the researchers as hate speech. This will allow for a greater understanding of the discussions that generate hate speech on the Dread darknet forum.

To conduct this analysis we utilize the 7 of the 9 steps recommended by Intellectus Qualitative (2024) and implemented by Frank (2024): (1) Upload Data (2) Read and reread qualitative data (3) generate codes by utilizing the auto inductive coding feature (4) Adjust and refine the codes, code descriptions and check the excerpts to ensure a match with the code description (5) Generate themes using auto theme function (6) Adjusting the themes descriptions, number of themes, and codes included in each theme (7) Conduct alignment of research questions and themes. This is similar to the reflexive thematic analysis process developed by Braun and Clarke (2021). Hitch (2024) applied the method by using Artificial Intelligence to perform reflexive thematic analysis of newspaper articles using a 6 step process (familiarization, coding, developing initial themes, reviewing themes, refining themes, and analytic report).

When utilizing Intellectus Qualitative in our analysis only data coded as being hate speech was used and the codes, themes, and excerpts were checked for accuracy and whether they appropriately conform to the codes and themes generated based on these results. The results generated were used to provide insight into the themes of the discussions that hate speech was used in the Dread darknet forum. This was especially important since users almost never referenced hate crime events which were in the media during the timeframe the data was collected.

Table 3. Frequency/distribution (%) of hate speech type in original posts coded as hate speech.

Hate speech type	% of Total posts	Target of posts			
		Internal & External	Internal	External	Not-Identified
Religious	4.01	3	3	26	10
Color	1.34	1	4	5	4
National origin	2.10	1	2	13	6
Sexual orientation	4.11	1	19	13	10
Sex	0.86	0	0	8	1
Gender identity	1.34	0	1	9	4
Race	2.29	1	10	8	5
Disability	1.81	0	8	6	5

Results

Once the coding process was completed we found that of our 1,046 posts coded, 135 met at least one of our criteria for hate speech. While several new victim groups have been identified over the last two decades based on platform and legal definitions we limited our coding to: "Religion," "Color," "National Origin," "Sexual Orientation," "Sex," "Gender Identity," "Race," "Disability." In addition, we also identified whether particular hate speech posts were directed at other members of the forum (internal), or individuals outside of the forum (external). The results of our coded data can be found in Table 3. We found that approximately 13% of the posts coded meet at least one of our hate speech criteria. Our results showed that when the target was an internal, sexual orientation was used more than other types of hate speech coded, and religious hate speech was used most when the target was external. Alongside sexual orientation and religious affiliation, hate speech targeting race was used in several Dread posts simultaneously targeting internal and external individuals or groups.

In the subsequent sections, we employ manual and automated content analysis to address our two research inquiries. Overall, the results show hate speech in our sample dataset of the Dread forum was used to target individuals and groups based on their religion, race, gender, and sexual orientation.

What Are the Themes Present in Hate Speech Related Posts?

To help us conceptualize our first research question, the Intellectus Qualitative (2024) content analysis software generated 3 themes after analyzing the content of the original posts coded with one of the hate speech categories: "Hostility and Discrimination," "Ideologies of Division and Control" and "Online Platforms and Extremism." Hostility and Discrimination themed posts contained clear hostility, discrimination and planned violence against groups based on their religion, gender, and sexual identity. Additionally, there was a specific focus on members of the Muslim, and LGBTQ+ community, along with certain perceptions about Israel. In one post which embodied an element of this theme, a user stated "Today i got on twitter to see kikes cry about a random jew getting hit in the head by a black and a pregnant woman and a baby getting killed and some rockets being fired from Gaza. I am in no way saying they deserved it or that I agree with the actions of the terrorists." while another user complained about the Dread gay sub-Dread stating "Honestly, I

don't know why this subdread even exists or is this a fucking joke (hopefully) and who the fuck came up with idea creating this sub shouldn't be alive. If you wanna be gay don't fucking do it on dread social rejects." The second theme Ideologies of Division and Control included narratives and beliefs based on discrimination, supremacy, governance conspiracies, and population dynamics that aim to divide and control societal structures. One of the posts tied to this theme was "As a massive jew hater (Because they are the scum of the earth) I'm surprised not to see this sentiment on here. We all know jews are scum. Hitler had the right idea, he just went about it the wrong way!! I don't like muslims, but I fucking hate jews more…" Finally, the last theme identified in these posts was Online Platforms and Extremism which is the exploitation of digital spaces to continue the propagation of extremist ideologies, including antisemitism and conspiracy theories, to bolster radical beliefs and activities. An excerpt from a post which demonstrated this theme was "The concentration camps and deaths of some jews (likely around 300,000) was real." These themes and associated posts demonstrate that within the 13% of post coded as hate speech, there is a particular focus on specific groups based on biases and multiple approaches taken to convey everything from dislike to violent hostility to members of these groups to other members of Dread.

Which Groups are Being Targeted within the Forum (Internally) and Outside of the Forum (Externally) by Dread Users with Hate Speech?

There were a variety of findings regarding who was targeted within the forum (internal), who was targeted outside of the forum (external), and how the language changed surrounding the offline events. Hate speech, with a focus on religious biases, was predominantly directed at Jews. There were also some instances of anti-Islamic rhetoric and language targeting faiths commonly associated with negative stigma, particularly the Abrahamic religions and Hinduism. The primary distinction between internally focused, religiously-motivated speech is that internal speech primarily consists of negative stereotypes and perceived characteristics for the purpose of metaphor, whereas external speech is predominantly composed of direct hate speech against religious minorities. This was exemplified in cases where Jews were depicted as financially greedy and other examples that utilized negative language based on perceived characteristics. External hate speech focused heavily on the conspiracy of Jewish control of government and even discussing comments made in 2012 by Iranian Vice President Mohammad Reza Rahimi, who falsely accused Jews and "Zionists" as expanding the drug trade at an antidrug conference in Tehran (Erdbrink, 2012). The most flagrant instances of antisemitic hate speech observed within the Dread forum originated from individuals' deeply ingrained antisemitic convictions and their wish for the extermination of the Jewish population (see Table 4, Example 4). Additionally, there were conspiracy theories involving antisemitism that focused on political manipulation, perpetuating the notion of "Jewish elites." These theories drew inspiration from the *Council of the Elders of Zion* and other antisemitic literature that propagate the myth of Jewish hegemony.

In addition to religious hate speech, hate speech directed at one's national origin was found to be more external versus internal and primarily targeted groups from

Table 4. Examples of hate speech identified by coders.

#	Target	Relevant excerpt	Hate speech code
1	External	Feels like the Woke Culture is taking over, I'm seeing all this feminism, BLM, LGBT, body positivity its everywhere, reddit is now just a shit hole filled with brainwashed people. Feels like the golden age of the internet have died and now are approaching the dark ages with censorship and everything being labeled as misinformation if we could do something about bringing the good old days back, where you can say nigger without being afraid, when toxicity was more common and was just a laugh, how would we go about it?	Color, Sexual Orientation, Sex, Gender Identity, Race
2	External	My gfs brother is a raging homo and its awkward af, due to religious reasons. I don't agree with homosexual homo sapiens. Had dinner all together with her family+her brother, his husband, and I don't even know what to say for conversation at the table because I was around those homo homosapiens. At the point where im planning on breaking up with my gf because I don't want to see her brother and his husband anymore. I'm worried i may have contracted hiv+or syphilis just eating near them any advice or am I just being a bigot	Sexual Orientation
3	External	Indian women in India need to be eliminated because most of them are gold diggers, lover of false cases and pseudo liberal. They need to be replaced with European/East Asian women in India. I AM SO SAD BECAUSE I DONT HAVE A GIRLFRIEND. I AM ALONE.MOST INDIAN PARENTS TELL THEIR DAUGHTER THAT DONT INTERACT TO OPPOSITE SEX UNTIL THEY ARE FORCED MARRIED TO ONSERVATIVE STUPID MAN. We will win the war We will do racism against Indian young woman. THEY MUST SUFFER!!!!!! Discriminate against them and replace them with Open Minded European/EAST Asian Women Most Indian women especially young are closed minded and they don't want to hug opposite sex. They are over sensitive and defective. I prefer my girlfriend to be European or Asian women. I like Indian women or black women But Indian women are defective so it is better to start radical discrimination against them!!!!! Indian women are defective!!!We will replace Indian women population with beautiful european/Asian women slowly without violence!!!!!!!	National Origin, Sex, Race
4	External	As a massive jew hater (Because they are the scum of the earth) Im surprised not to see this sentiment on here. We all know jews are scum. Hitler had the right idea, he just went about it the wrong way!! I dont like Muslims, but I fucking hate jews more. The only good jew is a dead jew!!	Religion
5	External	As a racist I get a lot of negative attitudes and bullying from people that are prejudiced towards racists how can we give racism a good name again and convince people that not all racists are bad?	Race
6	External	You will never be a woman. You have no womb, you have no ovaries, you have no eggs. You are a homosexual man twisted by drugs and surgery into a crude mockery of nature's perfection. All the "validation" you get is two-faced and half-hearted. Behind your back people mock you. Your parents are disgusted and ashamed of you, your "friends" laugh at your ghoulish appearance behind closed doors. Men are utterly repulsed by you. Even trannies who "pass" look uncanny and unnatural to a man. Your bone structure is a dead giveaway. And even if you manage to get a drunk guy home with you, he'll turn tail and bolt the second he gets a whiff of your diseased, infected axe wound. You will never be happy. You wrench out a fake smile every single morning and tell yourself it's going to be ok, but deep inside you feel the depression creeping up like a weed, ready to crush you under the unbearable weight. Eventually it'll be too much to bear—you'll buy a rope, tie a noose, put it around your neck, and plunge into the cold abyss. Your parents will find you, heartbroken but believed that they no longer have to live with the unbearable shame and disappointment. They'll bury you with a headstone marked with your birth name, and every passerby for the rest of eternity will know a man is buried there.	Gender Identity
7	External	The Zionists are in firm control of the illegal drug trade, Mr. Rahimi said, asking foreign dignitaries to research his claims…The Islamic Republic of Iran will pay for anybody who can research and find one single Zionist who is an addict, Mr. Rahmini said. They do not exist. This is the proof of their involvement in drugs trade. Mr. Rahimi … told stories of gynecologists killing black babies on the orders of the Zionists and claimed that the Bolshevik Revolution in 1917 was started by Jews, adding that mysteriously, no Jews died in that uprising.	Religion, National Origin
8	External	I hate women in the Middle East, they are all stupid, they think they are princesses, they are egoists, they are ugly, egoists and have a low IQ. I hate the Middle East. Fuck my luck. I wish I were European. I feel good chatting with European women. How can I meet European women? Fuck my luck again. I can't even go to Europe to visit my country. This passport isn't worth more than a grain of shit. Please save me from this Middle East. I think about committing suicide every day. My life is like shit here.	National Origin, Sex

(Continued)

Table 4. Continued.

#	Target	Relevant excerpt	Hate speech code
9	External	Question: A question of etiquette: do you give the ass or the crotch? the ass the crotch A question of etiquette: as I pass, do I give you the ass or the crotch? Fight Club, 1999When you have to pass in front of someone in a tight space (typically when getting out of your seat in a train, a p lane, or a theater), do you give them the ass or the crotch? Is it an attitude you chose once and for all at some point in your youth, or is it constantly reassessed depending on whom you have to pass in front of (for instance: whether its a man or a woman or a freak in between, or whether its a clean cut dude you suspect of being an undercover DEA agent or a dude with a mighty beard who might very well be a Dread dweller), or depending on your current level of self-confidence, or any other factor I may have overlooked? Conversely, if someone has to pass in front of you in a tight space, would you rather they give you the ass or the crotch, and likewise, is it a constant preference or a reflection of your spontaneous disposition toward that individual? Don't bother me with that, not here, please, dont let this onslaught of mind-numbing bullshit invade this safe space. Its a good thing that there are freaks, and I feel like one more often than not (only I refuse to let anyone put a label on my very own freakishness). What is not a good thing is when a very specific kind of freakishness is imposed as a new norm for everyone, blurring all natural boundaries that used to define us and make us feel united as a species. Nowadays the Pioneer hello aliens, heres my wife and heres my dick! plaque would spark outrage not because it would be deemed obscene, but because it depicted two genders.	Gender Identity
10	Internal	why is all the comments filled with the same shit over and over nigger this kill jew that or something about support russia or support ukriane criticizing the other side its like all of them are copy and pasted comments sections with slight differences and i cant see a huge point for bots to go there	Religion, Race
11	Internal	there is now a gay tax all of you faggots must pay or else i will have to evict you authentic you are officially being evicted from your position of moderation here at you have 2 options pay up add me to the moderation team while my lawyer prepares to serve you his gay documents make the choice you have 24h	Sexual Orientation
12	Internal	Honestly, I dont know why this subdread even exists or is this a fucking joke (hopefully) and who the fuck came up with idea creating this sub shouldnt be alive. If you wanna be gay dont fucking do it on dread social rejects. I hope these faggots will fucking die. Thanks	Sexual Orientation
13	Internal	am seeing a lot of racist posts here nier this and cn that I this is not ok we don't use the hard R here everyone should feel welcome on dread I so am warning you fucking filthy mayo monkeys not to act up here or there will be bans handed out this is my LAST warning to you stupid fucking honkey crackers oatmeal ass motherfuckers fucking vanilla gorillas shut the fuck up walking around like string cheese smh honey use my credit card 😂 why can't the chinese eat with knives and forks like the rest of us 😂😂😂 sick of yall bs	Color, National Origin
14	Internal	All faggots come forward for your weekly verbal abuse. Nowhere to hide you little gay boys !!!	Sexual Orientation

India and the Middle East. In Table 4, Example 3, the authors make claims about Indian women, stating they must be "eliminated" or "replaced" and that they are "defective." Similar, in Example 8, hate is expressed toward Middle Eastern women, claiming they are "stupid" and "ugly." This external hate speech directed at national origin and sex was followed by notions of the great replacement theory, claiming that these groups must be outright replaced with another more "desirable" group.

Hate speech directed at race and color were found both internally and externally. This hate speech was found both targeting individuals and groups on Dread (internal) and outside of the forum (external). Often, racially-motivated hate speech intersected with national origin and color. The results show that when coding for race, individuals perceived to be Black by the authors of these posts were often subject to hateful rhetoric through harmful slurs such as the "n-word," as seen in Examples 1 and 10. This racist term, expressed at targets both internally and externally, is often used within hate speech to dehumanize Black individuals. In the same example using the "n-word," negative sentiments around the Black Lives Matter movement were also expressed.

Hate speech revolving around sexual orientation and gender identity was also present in the data. Homophobic hate speech was more common than transphobic hate speech within the posts coded as hate speech. Hate speech based on sexual orientation was significantly more likely to be internal than external in the sample of posts in this study. Interestingly, during the data collection timeframe, Dread was experiencing a divide with the emergence of the "Dread gay sub-Dread." The expansion into inclusivity in this space has contributed to more instances of internal hate speech through the increase in interaction between this subforum and the dominant traditional sub-groups.

Posts with hate speech based on gender identity framed transgender people particularly as "freaks" or attempted to denounce their identity or self-expression, particularly targeting transgender women. Transphobic or other gender identity based hate speech on the Dread forum was also more likely to be targeting individuals and groups outside of Dread (external) rather than members of Dread (internal). Whether this is because of lower representation of transgender or gender non-conforming individuals within this forum, or another influence, there were no posts found that utilized gender identity or transphobic slurs as insults for internal forum interactions during the data collection timeframe.

Discussion and Limitations

There is yet to be a significant amount of research regarding the language used on the darknet and how hate speech manifests within it; therefore, this study contributes to the field by showing a preliminary analysis of this topic. The exploratory nature of this study was undertaken to analyze the trends in hate speech that occurred within the Dread forum and how it related to offline hate events. The results of this study indicate that hate speech most commonly appeared in terms of religion, race, national origin, and sexual orientation as the main manifestations, with a variety of similarities and differences found between the environmental references. Our study identified several uses of hate speech in the Dread darknet forum. We found that

hate speech manifested mostly in the form of religious, national origin, racial, and sexual orientation, with ableist and other less common forms of hate speech, while present, were not as prominent.

In the case of religious hate speech, these attacks were almost exclusively focused on external targets and were mainly directed at the Jewish community using conspiratorial and murderous language. Additionally, we found other religious groups being attacked using hate speech, notably the Muslim and Hindu communities, though at a lesser frequency. Even with this type of hate speech being primarily external, we still find very few posts on Dread which directly address hate crime incidents and world events compared to social and legacy media discussions where this is a large focus. Future studies should focus on how this external hate speech manifests in public hate speech and how this is reflected in policy creation to protect or limit certain populations.

Similar to religious hate speech, hate speech targeting national origin was found to be externally targeting groups, specifically those from India and the Middle East. When examining the occurrence of this form of hate speech, strong degrees of intersectionality between nationality and sex were present, suggesting that women from India and the Middle East are put at a particular disadvantage due to both their nationality and gender. This finding related to intersectional discrimination builds on previous research discussing the potential for online communities to create an environment for intersectional harm (Powell & Henry, 2017).

Racially-motivated hate speech was more evenly distributed, including both internal and external comments, as shown in Table 3. Through use of racist slurs such as the "n-word," our findings display the Black population to be the primary target. These findings are similar to the literature which highlights how black individuals are most commonly victimized through hate speech and hate crimes (Tynes et al., 2018). Exposure to online racist slurs illustrate that racism persistently plagues marginalized groups, particularly the Black community, online and offline. Cyber-racism exists as a continual pipeline for racist remarks (Keum & Miller, 2017). Although the Black community was not the only racial group targeted, it was the most consistently targeted racial group.

As demonstrated in Table 3, sexual orientation based hate speech had the largest number of coded posts, directed at others in the Dread forum. This internal hate speech was mostly driven by the establishment of the "Gay" sub-Dread during the timeframe of the data collection. As a consequence, the forum administrators faced hostility for authorizing the creation of the group. Additionally, a small number of LGBTQ+ community members accused Dread of lacking inclusivity, particularly in terms of LGBTQ+ representation among moderators and administrators. The inclusivity of a gay subforum fosters a space for those deemed "different" and the threat this poses to the status quo can manifest in the form of an increased number of posts containing hate speech targeting members of the Dread community who are perceived to be members of an out group and seen as infringing on or trying to change the current majority group's subculture.

We also observed several themes discussed in prior research concerning transphobic hate speech online like Examples 6 and 9 in Table 4. The utilization of terms such as "freak" and the "t slur" were present in addition to recurring themes of how transgender people "corrupt" tradition. Example 9, in Table 4 describes people who are

not cisgender men and women as "freaks" and that they "blur all natural boundaries." Example 6 in Table 4 also has this narrative referring to transgender people as a "cruel mockery of nature's perfection." Hate speech on Dread focusing on the perception of transgender people interfering with tradition reflects a more gradual shift in certain countries that have enacted several anti-trans laws over the last decade. The external nature of gender identity based hate speech on Dread also functions to "silence" transgender people who may want to become visible members of the Dread community. This type of silencing has been observed in prior research (Nyman & Provozin, 2019). While Dread has created the gay sub-Dread for inclusivity, gender based hate speech has emerged simultaneously and has utilized many of the narratives found on mainstream social media to oppose the integration of members of the LGBTQ+ community as visible members of Dread.

We also observed that the hate-motivated incidents that were used to identify the particular data collection periods used in this study were not discussed by Dread members. We found less than 5 posts about the incidence selected and in all cases they were posts of news articles rather than user created content. The only post related to these incidents that motivated discussion was a news article about the Christchurch shooting being streamed on Facebook. While our research uncovered the use of hate speech on the Dread forum, there was minimal discussion and interaction surrounding hate-motivated incidents as reported in mainstream media, indicating that Dread's primary purpose, as an illegal, financially focused virtual community and criminal enterprise, remains the primary reason for its use. In other words, it may be that the hateful rhetoric within Dread was based more in personal, subconscious prejudice and within the context of their illegal business activity rather than a voracious hate that would've been more apparent if they had reacted to the offline attacks. This is consistent with the findings from Caines et al. (2018) who found that these underground forums that are part of the underground economy use milder language and are not as combative as the comment section of sites like Wikipedia or social media.

The results of our sampled timeframe also shows that approximately 13% of our sampled posts were coded as hate speech, which is lower than the 25% found on social media platforms (Kaakinen et al., 2018; Schmitz et al., 2024). Hate speech levels on Dread may be limited by more specific sub-Dread moreration rules, which are enforced more frequently compared to social media platforms which contain complex, evolving content moderation standards. Alternatively, with popular social sites becoming less moderated, such as X, and soon to be Meta (Duffy, 2025), the Dread forum may remain an area where hate groups and hateful rhetoric may not become as pervasive as social media platforms.

It is important to acknowledge the limitations of our study. First, we examined a single darknet forum which was limited to a 3 month timeframe for data collected before and after 7 hate crime incidents. Without properly examining all the data on the forum or comparing our results to other forums operating during the same timeframe, we can only make conclusions about hate speech found on the Dread forum during these specific timeframes and therefore it may be premature to generalize this to the entirety of the forum. Second, we are only considering a predominantly English speaking forum and only examine the content of English posts, meaning that alternative forums including ones that use other languages are not covered in this

study and deserve future attention. Additionally, our results are also limited to specific types of hate speech, and we don't consider all possible forms of hate speech defined in many of the social media community guidelines, which could result in a user being banned from these platforms.

Future research should consider building on the findings of this study and fill in the gaps where there are limitations. Future research should consider the examination of other forms of hate speech on the darknet and how this speech is found generally and not just surrounding certain events, while also examining a number of alternative darknet forums. Additionally, further research should build on the internal-versus-external divide to allow more nuance in understanding how hate speech manifests. Finally, going beyond hate speech, offensive speech should also be considered as the primary focus of future research on darknet forums. With our findings indicating that hate speech appears less often on the Dread forum than social media platforms, it is conceivable that offensive speech may manifest at comparable, or even elevated levels, when compared to hate speech on the Dread forum.

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