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Social Media Use and Impacts on Mental Health:
An Examination and Close Look at Tumblr

A Thesis in Anthropology

by

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Abstract

Extensive research exists on social media use and mental health. This thesis focuses on their connection and the direction of influence on each other. The influence is not one-sided, but one can primarily find evidence of how social media use has been harmful on its users and indication of its potential to cause mental and physical harm. This discussion is furthered in the details of the social media platform known as Tumblr, allowing a deeper understanding of the multi-faceted impacts that one website can have and how content can cause harm to mental health. Of high importance is attempting to further this discussion and research by interviewing a few of Tumblr's users, revealing keen insight into the changes the site has gone through. This research reveals the personal impacts of Tumblr in individuals' lives as well as the importance of continuing to investigate this topic with the changes of COVID-19 in mind. Content analysis of specific tags on Tumblr adds to an understanding of the interviews. Social media platforms and the individuals using them are exposed to a plethora of content that can have positive and negative impacts on mental health. This thesis illuminates and explores the complexities of studying social media in an effort to better understand these impacts and advance the work of digital anthropology.

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Introduction

Considering the impact of COVID-19, a still active and severely isolating pandemic, the need to examine how social media and communication technology impact mental health is higher than ever. Widespread quarantining from the pandemic starting in 2020 highlighted how functions of work, education, and relationships depend on a network of technology that did not exist several generations before. The rapid increase in awareness of events around the world as well as the lives and opinions of peers is a recognized complication in therapy and other mental health work (Cain 2018). Increased isolation in reaction to the COVID-19 pandemic adds concern for how communication technology adds to or detracts from the harmful effects of that isolation. Smartphones and personal computers have a lot of potential in connecting people to resources as much as to harmful information. The compiling and analyzing of research in this paper aims to explore the existing investigated impacts of social media and communication technology on mental health and how social media has been purposefully utilized to alleviate mental illnesses or improve mental health, with special focus on the website Tumblr. Social media and the internet have further broadened and intertwined issues of mental health through vast amounts of information sharing and the tools they can provide through applications and websites.

Since social media and smartphones became a popular tool in daily life starting with Apple's smartphone in 2007 (O'Dea 2007), teenagers and young adults have been the predominant users of these resources. The developmental stages that these age groups go through are also considered at higher risk for developing or displaying mental illnesses or mental health concerns (Martel & Fuchs 2017). Teenagers are at an age increasingly common for diagnosis of

anxiety and depression which cause vulnerabilities to the perspectives of peers, which is touched on later (Muiruri 2021). The stability of life situations for these demographics are also often absent or questionable as they find themselves in a time of economic and national insecurity. As this paper seeks to understand and communicate the levels of risk for mental illness, focusing on depression and anxiety, it addresses research primarily conducted in the United States of America. The United States has been one at the forefront of communications technology. This technology allows constant connection to global problems, causing further susceptibility for worsened mood and chronic issues such as depression and anxiety (Garfin et al. 2020). It is also a country unable to provide reasonable, fair wages or products created without worsening environmental degradation (Maestas et al. 2017). This is another aspect that must be addressed in this field because economic and social environments are always factors important to consider in mental health.

While this paper focuses on findings regarding social media, it does not and cannot intend to ignore that social media is one aspect of many that impact mental illness. Economic, political, and environmental problems are worsening issues that often can cause a sense of powerlessness. These are issues on their own that exist outside of social media. What this paper can address, however, is that impacts and news of these issues also appear on social media, and how that presence worsens their effects on already vulnerable minds.

This study also breaches into the discussion of the COVID-19 virus and the pandemic currently affecting the world for three years as of this paper's publication. The quarantine starting in early spring of 2020 has effects yet to be fully understood and discovered, particularly on psyches and altered reliance on social media. The pandemic is not the only reason for this

pressing need to address this topic. Popular events like the movie *The Social Dilemma* and the senate hearings concerning the actions of Facebook add urgency to understanding the scope of this issue as well as warning towards the impacts regarding COVID-19.

This thesis focuses on Tumblr as a unique environment to consider regarding these impacts. Tumblr is a unique blogging platform because it is largely anonymous and not geared towards finding people one knows offline. It has a wide range of formats for content to be shared such as texts, photos, or links which can often be all used in one post. The content of Tumblr is a broad range of communities, many of which are fandoms, communities of people who are fans of sports teams, fictional media, and other popular or niche topics. Finding others in one's fandom is fairly easy through the search option and both certain tags and certain creators can be followed to create one's personal dashboard. The search option allows users to select the order of relevant posts in order of chronology or popularity. Tumblr has a mostly reliable, chronological dashboard that users tend to prefer to others for that chronological order and the lack of shadowbanning cases, which would keep others from seeing their posts. Users can reliably receive all the content they want and, through follows and a block option, can usually exist within their cultivated bubble of interests. When entering Tumblr for the first time, users are expected to find community, followers, and people to follow, through interests, and engagement continues in this way considering the anonymity aspects.

Tumblr's algorithm is also unique in direct interactions with posts. Users have the option of 'liking' a post and reblogging it. Both of these interactions are recorded in a feature attached to the post which stays with it when it is reblogged, the 'notes'. Reblogging copies the exact post to a user's own blog, allows them to add anything to the bottom of it, and users can trace back

every chain of reblogs very easily. Except for rare cases where the system glitches, everyone can easily find everyone who has interacted with a post and any words or images they added to the original. This facilitates the efforts of finding like-minded users or those who post exactly what content one is looking for.

Methodology

There are three main questions that motivate this research: What does existing research know about the relationship between social media use and mental health? How does the environment of Tumblr contribute to this relationship and the mental health of its users? How can the field of mental health and social media improve as it goes forward? These questions are investigated in several ways.

Firstly, I analyzed a broad range of existing research on social media as it related to mental health and mental illness in order to evaluate the link between teenagers' and young adults' use of social media platforms and mental health, primarily in the United States of America. This section uses textual and data analysis to discuss the existing harm of social media use. The relationship is suggested to be dynamic and unique. Through analysis, I sort existing information to help explain what is known as well as what seems to be missing from existing research.

Secondly, I review research specific to Tumblr. Using existing research and personal experience, I explain the current understanding of Tumblr's system and algorithm which both contribute to its influence on its users' mental health. The research articles used are closely analyzed to most appropriately understand their relationship to the broader discussion of this

topic. Existing research demonstrates how Tumblr has been researched in the past regarding its content and effect on users.

Lastly, in the section which addresses direct research, this paper focuses on research I conducted in 2021-2022 where three participants take part in individual interviews. Participants, after being informed of the nature of this research and giving consent, chose to be interviewed through a recorded phone call, to record themselves answering the questions, or to fill out a personal digital copy of the fifteen interview questions for personal preference and security reasons. Participants were able to skip any questions they did not wish to answer. In live interviews, the interview question order and specific wording may differ at times to maintain a casual environment that is conducive to a positive relationship, hoping that this achieves the most in-depth and applicable responses. This research started with attempts to find around ten live participants, and adapted to the limitations of a smaller sample size by focusing more on the implications this starting research has on existing data and on the direction this field can pursue. The methods of these interviews and this research has received Institutional Review Board approval. I recognize the limitations that the smaller sample size causes to the reliability of the findings in the interviews. Multiple efforts were made across multiple sites and methods of communication to build up the sample size. The potential complications of finding participants in this area of research are further discussed later, but, seemingly, interest and trust were difficult to create to a satisfactory extent within the time available to find participants. These drawbacks are more reason for future research to pursue this approach with larger teams and availability of time.

The participants are between ages eighteen and twenty-seven with differing amounts of active time on Tumblr. Their Tumblr posts are reviewed for any additional information applicable to their activity. Responses are compared with each other and to some quantitative analysis regarding certain themes, but overall the interviews are analyzed more thoroughly in discussion to provide a better view of what we can understand from the Tumblr community.

Data were also collected by conducting a content analysis of recent Tumblr posts. I searched in the tags ‘depression’ and ‘self harm’ on January 26, 2022, again a week later, and several more times over the following weeks, and used the Tumblr functions to filter for the most recent posts chronologically. In the fifty most recent posts for each tag, I created codes based on the themes of their content. The posts are categorized into the following codes: ‘pro-recovery’, ‘sharing resources’, ‘hopelessness’, ‘promoting dangerous behaviour’, and ‘hopeful’, or for cases that do not fit these, into ‘unfitting’ or ‘neutral’. Some posts were included in more than one code. Dangerous behaviour involves self harm, suicidal ideation, or alcoholism, for example. Additionally, the ‘self harm’ tag will also be assessed for how many posts include pictures of self harm or the effects of it. Each session of data collection for one tag took about ninety minutes. Then processing those data into the existing tables took additional uncounted time to make it a readable format. This content analysis is considered on its own as well as in comparison with the data from interview participants.

This last section and approach to investigate the defined questions stems from expectations of what data would be found following the effects of COVID-19. I expected Tumblr use to increase and harmful or negative content to have become more frequent. Many of the interview questions stem from these expectations. The content analysis serves to further analyze

the interviews. A broader expectation was that information found in the interviews would indicate how qualitative data and more personal testimonials could improve upon research in this field.

Social Media's Link to Mental Health

In one study of 1,787 young adults, participants in the highest quartile of social media (SM) use compared to those in the lowest had significantly increased odds of depression (Lin et al. 2016). The measure of likelihood to have depression was through the Patient-Reported Outcomes Measurement Information System (PROMIS) Depression Scale Short Form (Lin et al. 2016). This method of measurement is used in many other studies of depression levels and likelihood and was found sufficient in other patient groups (Clover et al. 2017). Another study examined potential differential item functioning (DIF) in this form regarding intersectional aspects such as ethnicity, age, race, education, and gender, and found suspected slight DIF in relation to ethnicity, but otherwise had few worries (Teresi et al. 2016). Worth noting is that this is the first study to evaluate the PROMIS short form across large ethnically diverse groups. In the study from Lin and colleagues (2016), 57.5% of the weighted sample was white. Considering how low the suspected DIF was for Teresi et al. (2016) and that it primarily was between white and Asian/Pacific Islander form takers, the results of the former study should be considered reliable. The conclusion there is that social media use “was significantly associated with increased depression” (Lin et al. 2016). They found that more frequent social media use was correlated with higher frequency of depressive symptoms. A similar study buttressed these conclusions. Primack et al. (2017) had a sample of 1787 responses from U.S. citizens from ages 19 to 32, 59% of the population that they had sent surveys out to. Depression was measured with one of the PROMIS scales, and 26.3% of responses were likely to meet the clinical criteria for depression diagnosis while 29.2% were considered moderate (Primack et al. 2017). For anxiety, Primack and colleagues used the 4-item PROMIS anxiety scale which has been validated with

other commonly used measures of anxiety. 30.3% qualified in the severe group, likely to experience forms of anxiety, and 36% qualified in the moderate category (Primack et al. 2017). When viewing these with social media use and multivariable models, they found a linear association between use of multiple social media platforms and self-reported depression and anxiety, though the study acknowledged a lack of knowledge in the directionality of this association (Primack et al. 2017). Lin et al. (2016) also addressed the need for identifying the mechanisms of this association, which is what this overall paper endeavors to assist with.

A significant amount of related research focuses on the idea that social media use worsens mental health. Baker and colleagues (2016) examined the effects of one outcome of increasingly accessed social media. It creates a tendency towards negative mood states often associated with the Fear of Missing Out, which has had increasing attention in recent years, and has negative side effects for mental illness risks (Baker et al. 2016). This negative mood state increases the time someone is likely to visit social networking sites and is associated with the risk for dependency or behaviors classified as addictive. In some cases, this is conducive to a positive feedback loop in which social media is increasingly depended on and then causes negative mood states to be more extreme and faster to occur (Baker et al. 2016). In this case, social media use is the catalyst for decreasing health. It creates an addiction. The mentioned mood states are important in this connection to mental health. As found by Baker et al. (2016) and previous research, they are related to an increase in depressive symptoms, physical symptoms such as manifestation of stress and pain, and less mindful attention, which are all indicative of worse emotional and cognitive health. Baker and colleagues (2016) also discussed the relation between these negative mood states and less successful in-person relationship

development, worse academic performance, and less motivation. These factors in real life are often found in conjunction with mental illness or putting someone at risk of mental illness. These are factors in a poorer quality of life and are likely to cause depression and other mental illnesses or be seen as a result of them. Social media use is known to be related to someone's ability to take care of themselves, which is also linked to mental health conditions, an area supported by another study in 2016.

Woods and Scott (2016) expand on previous studies that establish high general internet use as related to shorter sleep durations, those durations being delayed, difficulty falling asleep, and increased tiredness during the day in adolescents. Espinoza and Juvonen (2011) found that use of social networking sites reportedly caused interruptions in sleep or school for over 20% of 268 adolescents in their study. Researchers and practitioners now acknowledge and address sleep and mental health as inextricably linked parts of health (Scott & Woods, 2019). The duration and quality of someone's sleep can staggeringly affect their mental health (Woods & Scott, 2016; Freeman et al., 2017; Stubbs et al., 2017; Talbot et al., 2018). In a study by Freeman et al. (2017), 3755 undergraduate students with insomnia were assigned either digital cognitive behavioral therapy (CBT) for insomnia or usual therapeutic care. In multiple interval assessments for insomnia, paranoia, and other mental illnesses, treatment through CBT had significant improvement in insomnia as well as depression, anxiety, and psychological well-being (Freeman et al., 2017). Better sleep quality showed a strong impact in students experiencing mental disorders or effects on their health. Similar impacts are found for sleep disturbance for people with mental disorders having increased odds of suicidal behaviour (Stubbs et al., 2016). These impacts of poor sleep on increased suicidal behaviour as well as depression

are also found in non-mental disorder centric groups (Bernert & Nadorff, 2015). Similarly, Talbot et al. (2018) investigated sleep quality and mental health in service members and veterans. Insomnia was already found with comorbid anxiety, depression and Post-Traumatic Stress Disorder (PTSD), and it was found to increase the risk of developing psychiatric disorders (Talbot et al., 2018). In many studies in the past decade, sleep has shown a strong association with mental health and daily performance and an impact on existing mental illnesses. Bernert and Nadorff found that mental health does not have to be a prior condition to see these concerning effects. Poor sleep can exacerbate conditions while better quality and amount of sleep can improve them. Previously discussed studies indicate an association with social media and poorer sleep. Investigation into how this association works revealed that compulsory social media use (CSMU), along with its positive association with anxiety and depression, produces addictive and impulsive tendencies to respond to phone notification or continue interacting with social media (Exelmans & Scott 2019). The more connection and dependence on social media, the more likely someone is to keep interacting instead of sleeping. Additionally, the light-emitting diodes (LED) or blue light that phone screens are frequently equipped with suppress melatonin production, lengthening sleep latency and changing conditions during non-rapid eye movement and rapid eye movement sleep (Cajochen et al. 2011). When social media has a large role in sleep cycles, it directly and indirectly impacts mental health. Furthermore, the research of Bernert and Nadorff indicates that poor sleep can lead to suicidal thoughts; therefore social media use, which impacts sleep, can directionally cause mental illness in that specific case.

Through the findings of these studies, the causal direction of these relationships between social media use and mental health appears unclear and multidirectional. They do not have data on participants before they started using social media and do not know all of the conditions under which their mental health or mental illness symptoms developed. Naslund et al. (2016) found that their study of participants with severe mental illness -defined by a diagnosis of schizophrenia, schizoaffective disorder, major depressive disorder, or bipolar disorder- followed trends of increasing digital technology use and frequent social media use. Naslund and colleagues (2016) seem to imply that, in this situation, pre-existing mental illness impacts how an individual uses technology and social media.

On the other hand, the findings of Vannucci et al. (2017) implied that spending more time using social media led to greater symptoms of anxiety. It is not clear if the participants experienced anxiety before they started using social media. Nesi (2020) discussed peer experiences and cyberbullying that has been found in consistent association with self-harm. A significant percentage of adolescents hospitalized for risk to self or others reported having seen content online that promoted suicide or self-harm within two weeks before hospitalization (Nesi, 2020). This report summarized a few ways in which social media affects mental health and implied that it was a source cause or one of the source causes for self harm or risk of self injury in some cases in adolescents. Kelly et al. (2018) further researched how social media is associated with poor sleep, online harassment, poor self-esteem, and body image in fourteen-year-olds in the United Kingdom, and the study finds these factors to be mediators of social media's impact on depression. Similar to previously discussed research in this thesis, the study by Kelly et al. (2018) discusses these indirect ways that social media use impacts mental

illness. Twenge (2017) discusses the relation between increased social media use and increased frequency of feeling loneliness and isolation. The aforementioned phenomenon of the Fear of Missing Out increased with how much teens and young adults document their lives on social media, making others keenly aware of when they were missing or left out of events (Twenge 2017). In the same article she also mentions cyberbullying and the effects of smartphone use on sleep.

Many studies exist to help to understand the direct way that social media might impact mental health, and it is repeatedly found that it is associated with mental illnesses, likely worsens mental conditions, and has indirect effects that also influence mental health. Many conclusions of existing research seem vague or inconclusive about the specifics of this relationship, or more indicative of existing mental illness directing social media use. More unambiguous and substantial information remains to be found about this relationship, but in looking at the findings of the previously discussed studies, we can see how social media use likely has a strong direct and indirect relationship in worsening and being part of the development of mental illnesses.

Hunt et al. (2018) also attempt to investigate the causal role of social media in this relationship with mental health. In 143 undergraduate students, they measured social support, Fear of Missing Out (FoMO: a measure of distress related to missing out on social experiences), loneliness, anxiety symptoms, self-esteem, and autonomy and self-acceptance. Subjects took baseline surveys and then completed surveys three more times over the following three weeks during which one group continued to use social media as usual and a control group limited time on social media sites to ten minutes per day (Hunt et al. 2018). The control group saw significant decline in depressive symptoms, less loneliness, and both groups saw a slight decrease in anxiety

symptoms and FoMO (Hunt et al. 2018). This experiment ran into difficulties. The survey for depression symptoms was excluded for the later survey emails except for the final one on the fourth week, but did not exclude it at all in the second round of the experiment (Hunt et al. 2018). This leaves out important data in the first experimental round. The second round's procedure also asked for fewer submissions of minutes on social media applications, as measured by a phone's battery, compared to the daily submissions they originally asked for, and this caused there to be missing data for some subjects when their phones reset and lost that week's data (Hunt et al. 2018). The researchers view their data still as relatively reliable due to the lack of previous studies using battery usage objectively. Lastly, the researchers considered their follow-up data too small for reliable results due to receiving only thirty responses (Hunt et al. 2018). This is a significant report of very few that attempted to create an experiment in order to investigate the causal role of social media in mental health problems. Regarding depression, significant results were seen in individuals with high levels of depression decreasing down to mild levels during the three weeks (Hunt et al. 2018). Similar to previous studies, this demonstrates correlation and strongly indicates causation, though still not in social media use causing depression. This and the testimonies of a few subjects of the experiment indicate that social media was worsening and increasing depressive symptoms. Perhaps the study would benefit from longer trials to see how much those symptoms might decrease with more time, but the findings do not suggest that less social media use ends depression. Still, this would be very worthwhile to continue experimenting with and having longer trials. This experiment also has the same problem as any other efforts to investigate this causal role: the subjects are not in a metaphorical vacuum. While some subjects directly said less social media time, less comparing

themselves to others, helped them feel much more positive, the study lacks other information. It does not report on the other events of these individuals' lives and thus cannot account for other impacts on the improvements or staidness of their survey results. Even constructed experiments with the goal of illuminating the causal role of social media in its relationship to mental health are difficult to do and an extremely developmental endeavor. These investigations are complicated and potentially impossible, as further discussed later.

At the very least, smartphones and social media are a source of constant stimuli. It is an easily accessible tool of distraction because it constantly connects to a wealth of information. Many of them even have news applications that cannot be removed. Smartphones connect us to a large array of information and interactions with others. Especially now, as a deadly virus continues to spread around the world and create more social division, that information and those interactions are increasingly likely to be negative and harmful. Previous research indicates that social media can have harmful effects on minds and worsen mental illnesses, and this continues to be a pressing issue.

Current Popular Culture Events

The Social Dilemma is a movie released in 2020 and directed by Jeff Orlowski. It is a documentary that uses a fictional model along with the keen information from people in the technology industry to explain the harms of social media. The interviewees in the documentary, people such as the former president of Pinterest, technology designers, and co-creators of the Facebook 'like' button, acknowledge the good intentions behind the rapid development of

technology and social media, but ultimately had discovered all of the damage it has done. The documentary points out the knowledge that social media is designed to be addictive and shows how young teenagers become harmed by cyberbullying or negative content through the fictional story of one family. This family story also helps explain the ways that social media slowly influences and gains traction in our offline lives to the point of changing offline relationships, political stance, and putting users in dangerous scenarios like violent riots. The narrative of *The Social Dilemma* explains how social media developed into an industry where advertisers are the consumers while the product is a user's attention. Therefore, it is designed to be addictive and manipulative in order to have the most worth for the advertisers. The research into the pain-pleasure response by technology designers has made social media act like a drug (Orlowski 2020). With the influence of constant new information and interactions with other people, it creates habitual behavior, and these habits are very harmful. There are risks in addiction, and negative impacts when the desired levels of pleasure response in the brain are less achievable. Chamath Palihapitiya, a former employee at Facebook, said that, to achieve the same chemical reward, people who use social media will keep looking for what they have to do next, what actions or behaviours are needed (Orlowski 2020). This is one major way that social media is able to change who we are and manipulate our lives outside of technology.

The Social Dilemma also discusses concerns of self-worth. Humans instinctively care about what their community thinks of them, but social media exposes them to dozens if not millions of more opinions and judgments, even from strangers (Pyszczynski 1997). It is a large amount of added pressure, making teenagers especially more anxious and depressed because of this worry over the perceptions of thousands of more people. Jonathan Haidt, a social

psychologist, cites the giant increase starting around 2011-2013 of depression and anxiety in American teenagers, a 62% increase in girls ages 15-19 and over 100% for preteens (Orlowski 2020). At the time of this study this was the first generation to enter social media during middle school. The findings of Geiger and Davis (2019) indicate that this increase continued after 2013. Social media exposes us to thousands of more opinions every day. Beyond individual influence on someone's self-worth, this has broader scales of impact.

Political dissent is also a component that social media exacerbates by multiple methods. Algorithms have been left in charge of what we view, what is recommended to us, and what spreads furthest on the internet. The algorithm does not know what is true compared to 'fake news' or information that is harmful. It searches for related content with the goal of keeping someone's attention. This is one way users easily end up down 'rabbit holes', getting further into whatever topic they found interesting, often without any information being fact-checked. It makes indoctrination easier and explains how harmful groups like cults or supremacists gain members from online places. This lack of accountability for the spread of false or harmful information has also been used by governments. *The Social Dilemma* discusses how Myanmar was able to spread islamophobia and racist messages on Facebook, which resulted in physical attacks on Rohingya Muslims (Orlowski 2020). Political dissention in the current day is already an extremely stressful influence in almost everyone's life. Adding racism, sexism, eugenics, and many other types of messages spread online that have very real impacts explains another way in which social media has large-scale effects on mental health.

This is the context of the recent complaints about Facebook and its safety guidelines. In a Senate hearing on October 5th, 2021, a former Facebook employee shared documents indicating

that the company was aware of and largely inactive towards harms and problems of its applications, including to teenagers and children, having made little effort towards public safety (Muraca 2021). The hearing revealed Facebook's prioritization of profit and willingness to increase polarization, hate speech, and misinformation (Dang 2021). This has drawn more attention to Facebook and its founder, Mark Zuckerberg, as irresponsible and reminded the public of its former issues of user privacy. It has also raised awareness of the broader harms of social media. It is significantly documented evidence along with testimony that the company that owns Facebook and Instagram actively permits and sometimes enforces harmful content. Facebook has had unmonitored control over what it censors or spreads. The company had announced intentions to reduce the circulation of misinformation after 2016, yet this seems to not have come to fruition according to fact-checking organizations and fake news sites as well as this former employee (Alcott et al. 2019). Further concerning is that Facebook is considerably susceptible to information spread by 'bots' or automated content. Alcott and colleagues (2019) assess the more accurate trends in misinformation spread on Facebook. While between 2016 and 2018, Facebook engagement with false information sources slightly decreased, total engagement is still high (Alcott et al. 2019). The study discusses that the trend after 2016 is likely due to the changes implemented on Facebook to combat misinformation, but it is important to consider if the U.S. election in 2016 might also have caused the spike in engagement in that year.

The spread of misinformation is increasingly concerning with the occurrence of the pandemic of COVID-19. In one study, about half of the English posts analyzed were misinformation about the COVID-19 vaccine (Yang et al. 2021). Additionally, accounts with the most connections to other users were "fake news accounts, Trump-supporting groups, and

anti-vaccine groups” (Yang et al. 2021). Fact-checking posts had a harder time circulating and did not often reach those who interacted with the misinformation posts. Through experimentation, Ayers et al. (2021) also found that Facebook groups most affected by automated content had significant percentages of posts that claimed masks were harmful or shared conspiratorial claims about mask research. Misinformation has a very easy time spreading on Facebook even in 2021, often regarding political news, and COVID-19 has unfortunately been politicized.

Another source of concern was illuminated by the United States Capitol attack on January 6th, 2021, also popularly called the Capitol riot or the storming of the Capitol. A mob of supporters of former U.S. president Donald Trump, in an act of domestic terrorism, disrupted a session of Congress convened to confirm 2020 presidential election results, won by Donald Trump’s opponent (Duignan 2021). The attack is claimed to have been primarily planned and discussed on the social media network Parler, which advertises its minimal rules and promises to not censor posts (Munn 2021). Specific posts fueled the incitation of the attack and spread the legitimization of it (Munn 2021). As Munn (2021) stated, the ability of Parler users to speak so freely about this proposed attack reinforced its offline genesis as users reassured each other that it was justified and the correct way to protect America, as well as exaggerate the gravity of the situation. Messages and calls to action were able to be widely spread through Parler with hashtags and a lack of censorship. Other evidence from the attack raised investigation on Russian military or militant groups being involved digitally and physically, not far-fetched considering the Russian hacking and influence on the U.S. 2016 election (Robert Lansing Institute 2021).

This was another national and sometimes international topic that drew attention to the prevalence and power of using a social media network to spread misinformation and incite violence.

As discussed, misinformation and the ability to spread dangerous or hateful messages on social media have real and severe consequences. This is important to consider because mental health, especially as influenced by social media, is intersectional. It is influenced by physical circumstances, political atmospheres, and the opinions and actions of our peers. Social media has the power to make these factors change quickly, and thus directly impacts mental health. COVID-19 has had devastating effects on politics and loved ones, and misinformation on social media has made the effects continue for an unknowable length of time. The discussion on mental health in the digital era is complicated and must include these overlapping impacts.

Problems in the Literature

In trying to understand this issue through existing research, understanding the potential flaws in it is also important. Analyzing the entire new world that is the internet comes with challenges. Wongkoblapp et al. (2017) pose a few overall issues in various articles from 2011-2017; for example, research on Facebook has to account for the limitation of not accessing all interactions between users. For sites like Facebook, that missing information impacts exactly how much researchers can analyze. Text analysis tools are also still in development, and each has its limitations (Wongkoblapp et al. 2017). Another important theme Wongkoblapp and colleagues (2017) found was the prevalence of data collection relying on self-identification regarding mental illness and a lack of confirming doctor diagnoses for evaluating mental illness. None of the articles they reviewed crossover with those used in this thesis, but a majority of those used

here did also use self-reported data when researching mental illness, with a few exceptions like Naslund et al. (2016). Vannucci et al. (2017) even acknowledged the study's limitation of reliance on self-report questionnaires. This can impact accuracy and reliability of data, though should be considered in light of the complicated social discussion on self-diagnosis. Though in recent years concerns for adolescents pretending to have mental illnesses have risen, self-diagnosis has been common and largely considered valid, especially considering the difficulty in obtaining diagnoses -especially for neurodivergence such as ASD and more so with recent news of the diagnostic criteria of the new DSM edition- as well as how diagnoses can have legal ramifications. Perhaps the analyzed studies would be more reliable if they restricted mental health evaluation to official diagnoses, but they would likely find themselves representing an inaccurate portion of the population and find their research further restricted if holding up such requirements. Wongkoblap and colleagues (2017) still raise valuable points in needing to acknowledge the limits of existing research. Perhaps reports of such research should include discussions acknowledging the culture around diagnoses and self-diagnosis and the merits of the researchers' decisions to rely on self-identifying or official diagnoses, or direct readers to more in-depth discussions on that part of culture such as Sarrett (2016). Wongkoblap et al. (2017) provide important examples and questions to consider in the discussion on how research within this topic of mental health and social media use can be improved upon, as science and its research always can be.

Social media use has a complex and dynamic relationship with mental health. In some cases, it comes from existing mental illness or conditions causing certain patterns of social media activity. In other cases, we find the relationships creating a positive feedback loop in which social media worsens mental health conditions which increases the tendency to use social media and that cycle continues. Baker et al. (2016) explains how this cycle occurs as a result of FoMO. Seemingly, in most cases when social media affects mental health it is influencing existing mental illnesses, as an insignificant amount of research exists showing social media as one of the original causes of mental illnesses. The causal relationship is increasingly difficult to clarify and research considering the age at which most U.S. children start being exposed to online content. Nesi (2020) cited data with U.S. children under two years old “spending an average of 42 minutes per day” with screens. Increasing numbers of children are starting social media engagement during and before their early teenage years. This means investigating the exact role social media use might play in the development of mental illnesses is very difficult. Even in the attempted experimental conditions of Hunt et al. (2018), there were gaps in data and conditions that challenge how much we can reliably extrapolate from that study. Though current research does not show such a causal relationship of social media at the root of mental illness, social media use still appears to significantly impact the mental health of a majority of its users. The information available indicates social media having a strong impact on mental health, especially developing minds, and creating higher risk of exposure to harmful experiences and behaviours. The discussed research also shows how social media influences offline conditions that are harmful to mental health. It has a link to self-worth, loneliness, sleep, and social and political factors that we can follow back to their effects on mental health.

To continue to better understand this issue, the next section examines how a specific social media site can cause harm to mental health.

Delving Deeper: How Tumblr Represents and Impacts Mental Health

A peculiar case to examine within this topic is the social media website Tumblr. It is a blogging site, usually through text or images, with a user base largely of teenagers and young adults though it has members through middle ages and late adulthood. Primarily because of its failures in marketability and creating revenue, a few articles have claimed it to be a dead platform despite its actual popularity. This presence in the metaphorical backgrounds of social media platforms can indicate the place of its users and have insight into its role in their mental health. In personal experience, myself and many peers as a young teenager experienced mental illnesses such as depression, anxiety, and PTSD which affected the ways we interacted with Tumblr. The significance of Tumblr comes from how users can interact with the platform, which is further explained later, and its environment of anonymity. Users are free to identify themselves, but there is no account identity verification as seen on Twitter, and a majority of users remain primarily anonymous. As opposed to Facebook, Instagram, and many other popular platforms, the purpose of Tumblr is not to find and connect with users you know offline, or in “real life”, but more so to find others based on shared interests. The effects of anonymity are explored in personal research but also are present in existing studies. These aspects set Tumblr apart as a platform of scrutiny in the understanding of mental health. This anonymity, though, is examined as a factor in how users connect to potentially harmful content and how it persisted or changed during the COVID-19 pandemic. Through further research and examination of use of

this platform, and personal data collection, the past impacts of Tumblr are compared to the current state of it and its users during the ongoing time period of the COVID-19 pandemic.

Tumblr hosts very expressive and creative communities. Of course, this makes sense with the large population of teenage users, a demographic that, in developed countries, is rapidly struggling with how to express and identify themselves along with a blog format that, when working, permits a wide range of exploration of identity. Noteworthy, as discussed, this is also a common age range to see development of mental illness, which is irrevocably linked to Tumblr's user base.

Expression and creativity are relatively prized and bolstered aspects of identity in the United States, and self-expression is strongly defended in its laws. However, some of the content on Tumblr is a distinct case for examining severe examples of self-expression. One exploratory study of engagement with Tumblr posts related to self-harm, loneliness, and other symptoms of depression inferred that a significant amount of users seek out that type of content and relate to it, many between the ages of fourteen and twenty (Cavazos-Rehg et al. 2016). Is the freedom in expression on Tumblr leading to significant sharing of harmful content?

In the study by Cavazos-Rehg and colleagues (2016), a majority of posts they looked at displayed harmful behaviors such as self-harm and suicide. This study also refers to the content expressing depression and self-harm as a potential "shared interest" that users might be creating connections with others to talk about. They posed that mental illness and self-harm is a sort of fandom at this point, that users engage with it as a less serious topic than it is and in positive ways that fans do with subjects they like (Cavazos-Rehg et al. 2016). With Tumblr's large population and ability to create an isolated milieu, there has been a lot of room for toxic and

non-critical engagement in fandoms, which is the subject matter of multiple studies such as one by Choudhury (2015). Choudhury (2015) explored the existing content relating to anorexia and functioning of users who post pro-anorexia versus pro-recovery content. For the sake of clarity, anorexia and other eating disorders are considered self-harm and mental illnesses by this paper and the general psychiatric consensus, both on their own and because of the frequency of comorbidity with other mental illnesses. The study by Choudhury (2015) found that users posting seemingly pro-anorexia content seemed to exhibit, among other characteristics, greater feelings of social isolation and greater aggregation compared to users with pro-recovery content (Choudhury 2015). Hopefully, Choudhury can elaborate on this wording in later studies but the findings seem to indicate that engaging with content expressing positives towards mental illness draws others with similar experiences or risks of self-harm together. Additionally, posting such content or seeing it from others worsens feelings that accompany mental illness such as social isolation. This can also mean isolation within this community, creating a sort of ‘echo-chamber’ that is difficult to leave. The content on Tumblr concerning self harm is often seen, through the data of these studies, as glorified or romanticized.

Seko and Lewis (2018) and Shrestha (2018) also addressed romanticization on Tumblr. Of 294 images of self harm examined, a majority also expressed messages of hopelessness, and twenty expressed a normalization of self injury by presenting it as an effective coping mechanism or justifying the poster’s actions (Seko & Lewis 2018). This provides others with the message that self harm could also be helpful in their situations and provides a written defense or rationality for others who engage in self harm to use, either to their own questioning of their actions or to others asking about them. In this way, some content on Tumblr normalizes and can

worsen self harm in users with poor mental health. Jacob et al. (2017) discussed one person who found an online community that normalized self harm, and after some time found their self harm worsening. This normalization and, more severely, glorification also applies to other mental illnesses. One example Shrestha (2018) used is an image posted on Tumblr of a teenager with their head in their hands and the text “i think suicidal people are just angels that want to go home”. This compares people with depression and suicidal ideation to angels, which, regardless of religious beliefs, are socially perceived in dominant cultures as powerful, pure, revered, and admired beings. Depression and suicidal thoughts are therefore meant to be desirable. This is one of many posts found by Shrestha (2018) to express a theme of mental illness not being a concerning topic on Tumblr. Far beyond the destigmatization of mental illness on Tumblr, posts like these instead portray self harm and mental illness as positive and enviable. Jadayel et al. (2017) mention the idea of “beautiful” suffering being learned from such posts on Tumblr that further create an appealing, desired image of experiencing depression and other mental illnesses.

Shrestha (2018) also addressed the problem of users who post romanticizing images of mental illness and are not mentally ill themselves, but are instead impressing their views onto people without understanding the ramifications of their messages. In some ways the images like the one discussed above is another form of pressure from society, both turning mental illnesses into something they are not and contributing to the idea of a ‘perfect victim’. They are inserting their misconceptions or lack of awareness into the conversation that they have no place in, which can drastically alter the treatment and perceptions of mental illness from others.

When someone experiencing mental illness finds themselves not matching these idealized portrayals of a suffering person, it impacts self-worth, the perceived validity of their experiences,

and can pressure them into certain actions to fit that image. Especially in the popular age range of Tumblr -teenagers- self-worth is fluctuating, even more so for someone struggling with their mental health. It is likely already low, and seeing this ‘standard’ of someone suffering from mental illness and not meeting that standard adds to their beliefs of not being ‘enough’. There is also the potential message that they are not suffering in the ‘right way’, and if they are not doing so, they are not actually suffering or do not deserve recognition or help. This is especially a concern regarding those with eating disorders, towards whom the rhetoric of ‘looking like someone with an eating disorder’ is a common experience. Fatphobia plays a significant role in development and persistence of eating disorders (Durso et al. 2013). The final risk is the pressure to change behaviour. Like the messages that defend or rationalize self harm, people who see representation of the ‘right way’ to experience mental illness can be influenced to engage in damaging behaviours when they would be less likely to without these messages. This is added to by another social factor on Tumblr: competition.

Acknowledgment and destigmatization of mental illness also opens the discussion of severity of experience. Many have acknowledged that this is an unnecessary topic to discuss even from the start of its appearance, and I personally have seen fewer and fewer instances of such interactions. Still, sections of social media platforms, including Tumblr, present the message that suffering is a competition. Jacob et al. (2017) briefly mentioned the presence of competition regarding self harm expressing negative feelings when users did not or could not use the same techniques that they saw online. Overall, Tumblr is a place that strongly acknowledges privilege and advantages, and in some places this has gone to the lengths of quantifying or comparing the severity of mental illnesses. This is a message from the non-digital world, where

validity of suffering is extremely conditional on doctors' notes and diagnoses and physical impacts of mental illness. This translates to internalized, socialized beliefs towards non-physical or less visible experiences. In certain places, individuals then interact with the belief that they can qualify if someone's suffering is 'enough'. These social themes end up, in some Tumblr communities, causing the belief that suffering must be compared. When this competition occurs, it carries the risk of making those engaged in it less willing to work on their mental health as it now brings a sort of credibility, or makes these individuals compelled to cause further harm to themselves. It is not an environment that supports healing or constructive reflection.

Identity

Identity plays a large role in methods of thought and mental processing of the world. Tumblr is a major axis for teenagers and young adults to learn about, explore, and make decisions about identity, so it is useful to examine how other aspects of identity can impact mental health.

How mental illnesses and self harm can be made desirable for someone to take on as part of their identity is explained in the previous section. This is dangerous for those who hold mental illness as part of their identity - which is very common as it does permeate one's life and can be seen as something that molded or still shapes who they are - because they are then exposed to these potentially harmful posts that influence their actions and feelings towards themselves. As discussed, when someone has depression and sees the mentioned post that represents depression and suicidal ideation as beautiful and holy, but thinks they do not fit that description, it causes a

questioning of that part of their identity, which can impact their ability to find help for their situation.

The idea of the 'perfect victim' can come into play when this happens. It is most often associated with victims of sexual assault and trafficking but has a different interpretation regarding mental health symptoms. It is a pressure some might feel to experience and display their mental health in a specific way. This often happens because the expression of certain symptoms is often associated with more validity of one's experiences, often based on societal misperceptions of mental illnesses. It also occurs because of social teachings that instill the message that anxiety, depression, self harm, and other mental illnesses must come with specific symptoms and appearances. For example, a person who is fat and develops an eating disorder is not always treated as seriously as when that person is skinny, and they can experience disbelief in their peers if they say they are anorexic (Button Poetry 2015). This influences the way that people try to represent their mental illness because of messages about how others will perceive them as well as how they perceive their own mental illness.

Sexual orientation and gender identity are another complicated topic within the social media-mental health relationship. As stated, Tumblr is a place where many people have been able to learn about and explore the wide range of identities related to orientation and gender. Like mental illness, being part of the queer community is a complicated and diverse part of identity that can increase someone's vulnerability and susceptibility to certain societal pressures. Being queer online, including on Tumblr, can expose someone to cyberbullying as well as further messages that influence self worth. Being transgender, for example, can be represented online in many ways, but some of them are harmful, such as the message that someone has to look a

certain way or 'pass' as a certain gender in order to be valid in their identity. Other social effects of being queer can also directly worsen mental health. When someone finds out they are queer, especially at the younger age of much of Tumblr's population, they might not have an accepting family. Whether they then decide to hide this important part of their identity or tell their family, being in that situation is damaging to a developing mind and can cause or worsen depression, anxiety, or other mood disorders. The effects of dysphoria in transgender individuals is also a major influence on mental health. Even without familial aspects, the United States as well as much of the world remains heteronormative, sexist, and transphobic both socially and politically. Queer individuals have a high likelihood of anxiety, depression, and other mental disorders (Gill, 2015). Sexual orientation and gender are important to consider intersectionally with mental health.

Tumblr's Recent Events and Potential For Good

Any discussion on the hazards of using social media should be dual-sided and address the ways that social media and the increase of reliance on technology has also had numerous benefits. The technology experts in *The Social Dilemma* emphasize how beneficial social media has been in connection between people. The answer to the negative impacts of the internet can never be to stop using it or to take down social media platforms, which was further enforced by the events of the COVID-19 pandemic. Part of the reason romanticization and the 'fandom' of mental illnesses occurs is because Tumblr users can "express something they feel they can not express in their own lives" (McCloskey 2020). Tumblr and other social media platforms are often referred to as an 'outlet' for the thoughts and feelings users often feel they cannot share anywhere else. It has risks, but it is firstly a very helpful resource. In this way, it can alleviate pressure and feelings of isolation that would otherwise be a positive feedback loop in worsening negative thoughts. McCloskey (2020) also discusses personally using Tumblr as a way to be able to "'fit in' with a subculture", and in this way, to better understand certain aspects of the depression and anxiety she dealt with and how it connects to her identity. McCloskey is one of thousands who experience the same benefits of exploration and learning on Tumblr.

Tumblr has been a means of education while "traditional educational institutions have faced a narrowing" in the subjects of "critical thinking, the arts, sex education, and progressive politics" (McCracken 2017). It is, for the most part, a progressive space whose members explain and model ideas of feminism, queer identity, and, though less common, the complexities and fallacies of race (McCracken 2017). Many users are critical of their non-digital culture's status quo such as sexism and limiting traditions. This is part of how it creates an expressive,

exploratory place, as well as a source of education. Many users of all ages are introduced to a diverse community when joining, which is beneficial to individuals to be able to explore their own identity and challenge their conceptions and judgments of others, and is beneficial to society for very similar reasons. This education and diversity teaches a broadening of world views and acceptance of more diversity. It can help create hesitation or questioning of prejudices towards others and the precedents of an open mind. In society, especially one as large as the population of the United States of America, this is important for the healthy, safe, and kind treatment of others. Being aware and accepting of differences is a large benefit to a diverse culture. This awareness applies to gender and sexual orientation but also to chronic illnesses, disabilities, and other statuses of inequality that have representation on Tumblr. This impact is also the result of an important topic: freedom of speech.

Except for the common censorship of sexual or some violent content, users are able to post a lot of messages on social media sites with often limited amounts of monitoring. That is what allows the spread of the dangerous political messages discussed in *The Social Dilemma*. It allows harmful groups to exist online and for misinformation to change millions of minds. On the other hand, it allows progress in the ways previously discussed, it is as much a place for harmful messages as helpful ones. It also causes those groups and harmful messages to be easily called out and proved wrong or dangerous. Freedom of speech is another difficult area of social media's impacts. An algorithm is not trustworthy in controlling content online, so the important discussion is who should be in charge of monitoring content. When that discussion and decision takes place, it will have crucial effects on the direction of research in this topic.

Another way communities on Tumblr can be a positive influence was studied by Seko and Lewis (2018) on the side of hopeful/pro-recovery stories regarding self harm. Through Tumblr's platform, users are able to share personal recovery narratives and supportive messages. They are just as easy to find through the tagging system and can be used to create an influential environment that is positive instead of negative. The representation of scars and other self harm in this way can be "an adaptive process, whereby these persons work to re-construct coherent, meaningful narratives and re-establish their sense of self worth..." (Seko and Lewis 2018). When people are struggling with mental and emotional issues, seeing the stories of others modeled in this way can provide a healthy direction for them to go. These pro-recovery narratives are examples and reassurances of healing as well as a community that helps each other find ways to recover.

Tumblr is also a way for resources themselves to be brought directly to people. Liu et al. (2017) claimed that, when users on Tumblr use the search option for tags such as "depressed" or "suicidal", they are first prompted with a message expressing concern and providing hotlines and resources with aid for mental illness. Additionally, based on a study from 2016, that message users are prompted with had updated with different, presumably more reliable resources (Cavazos-Rehg, et al. 2017). After checking this claim and finding it still true, I encountered the bot called "Koko" in my direct messages on Tumblr. By responding with letters after Koko provides correlated response options, the bot connects one to other Koko users based on what someone is dealing with and if they need support or can offer support to someone else. It is not a substitute for therapy or prescription in cases when someone is going through continual distress relating to mental health; but even in those cases, Koko can be a very valuable resource for

immediate relief of feelings of isolation, helplessness, and loneliness. Tumblr has no control over Koko or Kokobot, it is a separate website which uses Tumblr to increase its effectiveness. This is one example of social media being an opportunity for mental health resources, for helpful information to be further dispersed.

Contrastingly, the staff in charge of Tumblr made another big change during the writing of this piece. In December 2021, the staff notified users that a long list of tags had been banned on the iOS version of the application, reportedly to satisfy Apple's safety standards (Rivero 2021). For some users, this can seem similar to the 2018 ban of any content flagged as mature or inappropriate by a programmed system. Now, when searching for certain words in the application on an Apple product, users are given a message that the content has been hidden. The difference now is that the target includes seemingly unharmed words. These are words such as 'girl', 'single dad', 'beard', and 'reblog' (Rivero 2021). 'Depression' is seemingly still permitted and still showing the "Everything okay?" message, but that message is now the only post shown when searching 'anxiety'. Additionally, other banned words include 'insomnia', 'testicular cancer', 'diaper', 'ACAB', and 'addiction'. This is particularly problematic not only for the debate on censorship, but because of what was previously discussed around the study of Seko and Lewis (2018). These are important topics and issues that people need to be allowed to discuss, and this ban limits their ability to do so. Unfortunately, social media sites are more frequently being treated like they are responsible for children's safety, so these 'unsafe' topics are being censored or banned and have particular impact on a site's commercialization. YouTube is another good example of how social media sites will prioritize being able to have revenue from advertisements over the subjects their users are allowed to discuss. This case on Tumblr is

slightly different. It might end up entirely less consequential, considering it currently only applies to iOS application users and has no effect on the website in a browser. Still, the effects of these limitations on some users is currently unknown.

Personal Research

Introduction

The previous sections explain that mostly quantitative and some qualitative evidence indicates a connection between social media use and effects on mental health that is increasingly complicated and has much more to be understood about it. A place where existing research is lacking is the very low amounts of ethnographic-type research with open-ended questions that help us understand the more complex ways social media, or specifically Tumblr, interact with the lives of its users. Quantitative and non-ethnographic qualitative data are a valuable source of information for understanding a topic. It provides proof of phenomena, trends, and that which can be shown in empirical data. It is incredibly useful, as shown in this paper, but it only shows part of the picture. The ‘outsiders’ perspective can have suggestions about what to do concerning problems like the influence of social media on mental illness, but furthermore we need to understand the people actually affected. Not only would that understanding help create an appropriate response, it also can reveal a lot more knowledge and insight about such an issue. Ethnographic research can also uncover crucial questions about a topic that someone more distant to an issue would be less likely to consider. Those questions can then help develop research methods and tools better suited to new issues. This existing research is also lacking information about COVID-19, with most existing before 2019. This personal research aims to provide a better view of how Tumblr users personally think about the mental health topics seen on the website and start to add data that take the vast effects of COVID-19 into consideration.

The following data and discussion address research with live participants in structured interviews that ask about their perceptions of Tumblr content before and after the spread of

COVID-19. It also puts those insights in comparison with quantitative data about recent mental health content. This section explains introductory information from combining ethnographic and quantitative research.

Methodology

The methodology is detailed in the initial methodology section.

Data

The participant interviews, though consisting of results from three volunteers, still provide meaningful data. All three participants have been active on Tumblr since 2012-2014, and joined for different reasons. Participants 1 and 3 initially joined for more socialization with their peers, which participant 3 stayed on for, while participant 2 joined for fanfiction and fandom content, preferring that the site was less focused on keeping in touch with family and friends like Facebook or Instagram. At some point, either early on or more recently, each participant felt Tumblr was a place to relax or have reprieve from what they were or are dealing with outside of social media. Participant 3, who quit Tumblr after the passing of the SESTA-FOSTA act, resulting in the ban of a lot of NSFW content in 2018, returned in 2020 and said they found comfort in the fandom space, it was a place to escape. In fact, they state that their mental health, though fluctuating, is more stable now than at the start of the COVID-19 pandemic, and the fandom haven on Tumblr “has played a huge role in that”.

Participant 3 also states that they think the users they follow use Tumblr as an escape like they do. The other participants do not currently find this reprieve to the same extent through Tumblr. The small sample size should be kept in mind towards these results.

All three participants say they have not personally seen an increase in mental health-related content on Tumblr since the start of the pandemic. Participant 1, thinking it has decreased, attributes this to the content ban in 2018, and says the related content they do see is more often neutral than positive or negative. They also believe Tumblr traffic has decreased over the years for the same reason. Participant 3 has seen less mental health content because they specifically made sure to follow users that only post fandom-related content. In contrast to participant 1, participants 2 and 3 believe Tumblr traffic has increased since the start of the pandemic, and believe mental health-related content has increased despite not personally witnessing that trend.

Another thing shared by all participants is the perception that mental health content is more prevalent on Tumblr than other social media sites, which was my expectation. Participant 1 believes it is due to the lack of censorship before 2018, allowing freer discussion. Participants 2 and 3 believe it is related to the lack of performance on Tumblr, where almost no one feels pressure to glamorize or polish their life compared to the communities on Instagram or Facebook. Participant 3 refers to this as the culture of Tumblr, characterized by valuing sincerity as well as a “penchant for chaos and mischief”. This culture makes sharing negative realities of life normal and expected, and decreases the mentioned pressure to mask negative or complicated emotions. All three participants also directly mention anonymity as a cause for this higher amount of mental health content. Anonymity and fewer connections to offline peers, as all

participants agree, make it easier to share sensitive, personal information unconnected to other parts of one's identity.

All participants also agree that Tumblr was a helpful space for education at some point of their membership. The educational and diverse communities on Tumblr directly impacted the identities of two participants, while all participants felt that Tumblr enabled them to learn something lacking in formal education. According to the interviewees, mental health representation on the website was educational for understanding some of those issues, though one participant believes the posts that were supposed to be educating on mental health were not very useful.

Lastly, regarding the participants' mental health statuses, participant 3's has been discussed, with Tumblr being a positive influence on it during the pandemic. Participant 1 states that their current mental health is far improved from how it was in 2012 when they joined Tumblr. This is not connected to the site at all, for them, but more related to their offline life and understanding of themselves. They are no longer dependent on Tumblr and used it less after the start of the pandemic in favor of other hobbies. Participant 2 reflects that their mental health has worsened over the course of the pandemic, expressing some feelings often associated with depression. They still use Tumblr regularly but not as often as they used to, while their use of other social media like TikTok has increased.

For the quantitative data, I looked through the 'depression' and 'self harm' tags to assess the type of content dominant in them with five categories: 'hopelessness', 'promoting dangerous behaviour', 'pro-recovery', 'sharing resources', 'hopeful', 'neutral', and 'unfitting'. Over five

data collection sessions and more than fifteen hours, I analyzed the fifty most recent posts, reading a total of 250 blog posts. This provides stronger results and the ability to compare data from slightly different times of winter and spring.

The quantitative analysis of multiple Tumblr posts depends on categorization into a few ‘good’ and ‘bad’ themes. A posts applicability towards a category depends on the perceived message from each post. For ‘hopelessness’, I assess if the original poster is expressing a lack of hope for their life or situation, if they express not feeling or seeing any way to improve their situation, or a variation on this emotion. ‘Promoting dangerous behaviour’ applies when the post includes discussion, display, or mention of dangerous behaviour, such as self harm, drug use, or harming others, without a clear message that those actions are unhealthy and not condoned. ‘Pro-recovery’ posts have a message that directly encourages others to work towards recovery, shows that the original poster wants to recover or is in recovery, or close variations on those messages. ‘Sharing resources’ applies when the post directly mentions, recommends, or has links to resources for mental illness or crisis. ‘Hopeful’ applies when the post has a perceived message that the poster does have hope for their situation or expresses something positive that happened for them. ‘Neutral’ is for posts that are related to mental health but do not fit in any categories or do not have a perceived either positive or negative impression. ‘Unfitting’ is generally for posts that are not in English or poems with unclear messages. The tags of posts are also considered to aid categorization. For example, sometimes the main text of the post might only convey hopelessness, but the tags also mention self harm.

Both tags started with the “Everything okay?” message discussed before and this tag was not included in the cumulative 100 posts studied for each tag. Additionally, the second post was

one promoting mental health awareness. It seemed pinned in these tags like the ‘Everything okay?’ message, was first posted in 2015, and was also not included in the official post analysis. In the notes of this post, the most recent twenty replies are users expressing anger or loss in response to Tumblr blocking content from certain tags.

Figure 1 shows the results of the five separate analyses of the posts in the ‘Depression’ tag and the totals for each category. Additionally, six posts applied to more than one ‘positive’ message category, or collectively, ‘pro-recovery’, ‘sharing resources’, and ‘hopeful’. Ten posts in total applied to more than one ‘negative’ message category, or ‘hopelessness’ and ‘promoting dangerous behaviour’. Finally, three posts expressed qualities of both ‘hopelessness’ and ‘hopeful’. All tally marks used when collecting data have been changed to English numerals.

In all of the data collection sessions, the most recent tag was posted within an hour of the start of the session, and in most cases within a few minutes. In the majority of sessions, these most recent posts were categorized as ‘hopelessness’ or ‘promoting dangerous behaviour’. The 50th posts, the least recent, were consistently on the same day of each session, never more than twenty-four hours old, and a majority were categorized in ‘hopelessness’. Unexpectedly, the collection during the session on March 16th included one post with an image of self harm cuts.

Category	January 26, 2022	February 2, 2022	March 2, 2022	March 16, 2022	March 21, 2022	Total
Hopelessness	17	21	16	26	23	103
Promoting dangerous behaviour	5	4	4	6	0	19
Pro-recovery	10	5	7	3	5	30
Sharing resources	4	5	4	0	1	14
Hopeful	7	3	2	1	1	14
Neutral	3	11	11	10	11	46
Unfitting	12	5	9	7	10	43

Figure 1, representing how many posts under the tag ‘Depression’ conveyed a message in each category for each data collection period and in total.

Figure 2 shows the results of analysis for the ‘self harm’ tag. Seven posts applied to more than one of the ‘positive message’ categories, and twenty-two applied to both of the negative message categories. Six posts, in total, applied to both a negative and a positive message.

The ‘self harm’ tag has the same first two posts as the ‘depression’ tag and were similarly not included in these numbers. In these sessions, the oldest sampled posts, the fiftieth ones, were also consistently posted within twenty-four hours of the sessions. These posts were evenly split between the ‘positive’ and ‘negative’ categories with one ‘neutral’. The most recent posts were within an hour before the start of the session, with one posted only minutes before. The majority were categorized in ‘hopelessness’ or ‘promoting dangerous behaviour’. Important to note in this figure is the added record of how many posts had images of self harm or the effects of it.

Category	January 26, 2022	February 2, 2022	March 2, 2022	March 16, 2022	March 21, 2022	Total
Hopelessness	15	10	13	16	12	66
Promoting dangerous behaviour	20	14	18	16	18	86
Pro-recovery	14	11	9	4	6	44
Sharing resources	5	5	6	0	0	16
Hopeful	2	3	1	0	2	8
Neutral	3	9	8	9	9	38
Unfitting	0	6	1	9	8	24
Picture of self harm	4	2	3	4	9	22

Figure 2, representing how many posts under the tag 'self harm' conveyed a message in each category for each data collection period and in total.

Results/Discussion

As discussed, the evaluation of these data adapted from the aims of a larger participant group. The lack of perceived interest in this study is also valuable information, though answering the questions it raises would be futile to attempt within this piece. However, those questions are worth considering. Were the multiple digital accounts that advertised this study not popular enough? Perhaps those who saw it expected little benefit considering the time they might put into it. Directions of the economy, politics, and social expectations seem to have resulted in an increasingly busy populace, along with pressures to make the most of our time or monetize hobbies. Juliana Friend (2013) considered multiple explanations when encountering similar shortcomings in initial participant searches. She cites failing to gain trust in online environments,

even being suspected as spam when first messaging someone (Friend 2013). Two of the participants in this research were not found online, which might support this overall complication with digital anthropology.

The participant interviews are from only three sources, but still have significant information in their results. The similarities and differences of these perspectives even in a nonexhaustive collection of data are indicative of the importance of ethnographic interviews and continuation of their inclusion in this field.

An initial finding from the interviews is in comparison between participant 1's and participant 2's reasons for joining Tumblr. Participant 1 joined to connect more with their friends and directly talk with other peers through shared interests. Participant 2 joined specifically to not connect with people they know and instead be in a space focused more on finding art and content that they liked. They specifically state that they did not really see Tumblr as a social media platform for them, as they were not exactly socializing. This extreme contrast is representative of how flexible Tumblr is as a space. Its community is diverse as well as its methods of use. It can be personal for some and far less intimate for others. Its system and algorithm are key for that variety of functions. The experiences of participants 2 and 3 indicate that certain types of content like posts about mental illness are easy to avoid seeing. As participant 3 states, this is due to the algorithm that does not suppress certain users or content based on popularity and does not force certain content onto dashboards. It is more tag-based, meaning blocking content is far more easy and reliable, while searching out specific content is also much easier.

This ease with which tags can be used is complicated, as discussed. It connects people based on harmful interests just as much as on positive interests. This system and algorithm that

allows one to only see the posts of those they follow is exactly what allows participant 3 to see no content relating to mental health, and avoid potentially harmful posts that would detract from the safe and comforting space that Tumblr is for them. This site is very easy for users to personalize.

The clearest message is that the site and tools it provides are not inherently dangerous or harmless. How they will affect the userbase is only revealed when they are actively used by people. Focusing on how we treat each other is more important than changing the setup of Tumblr. However, that does include addressing how those who run Tumblr treat their users. As discussed with misinformation on Facebook, popular social media sites have a responsibility for permitting content like bullying and misinformation unchecked.

The way the participants discuss Tumblr portrays it currently as a positive part of their lives. It is a place to pass the time when bored, to relax, and to feel safety and comfort during a chaotic, stressful time. From their own assessments, it does not currently have negative impacts on their lives. It is neutral for two of them and actively helpful for the third. However, every participant had similar complaints about how Tumblr is run. Tumblr's censorship came up in every interview, with participant 2 stating that Tumblr staff make no sense, ban random things, and do not seem to try to censor violent or offensive content. Participant 3 states that Tumblr is horrible at managing content, ineffectual towards spam bots and fake accounts, and of course recently banned tags that are harmless, mundane, or used by marginalized communities. They criticize that the most recent ban on specific tags is "ultimately causing harm to already marginalized people". It is important to note that participant 3 faced personal repercussions from the 2018 ban, as Tumblr had been the primary way others found the erotic content that they

made. The ban caused a major loss in their revenue, and they are absolutely not the only user who experienced this. Tumblr had been an open, safe place for adult content for years, and this ban did alienate a large portion of its community. Interestingly regarding content, these participants both seem to disagree with participant 1, who believes there to be less mental health-related content on Tumblr and that that is attributable to the content ban in 2018. Throughout the years, Tumblr staff has been strongly criticized for nonsensical changes and, since 2018, catering to a market with disregard for the existing community on Tumblr. The presence of mental health content on Tumblr is better discussed with the quantitative data later.

While certain content is no longer as available on Tumblr, anonymity remains an integral aspect of the community. Whether the anonymity on Tumblr is ultimately more helpful or harmful to users is difficult to assess, but it is a form of social media and space that many people look for and often find security in. As the recent ban of certain tags on iOS devices proves, this community largely believes that taking away that form of community and communication is at least unhelpful, and at most actively harmful.

Also important to address is that participant 1 discusses that, in the years after joining Tumblr, they felt an addictiveness develop in the “mindless scrolling”. In this time, they say they felt loss in interpersonal interaction, and isolation in their real life occurred. In this random small sampling, one in three participants mentioned feeling, at some point, addiction to Tumblr. The previous research cited throughout this work supports the hypothesis that extended research would continue to have results in or close to this pattern, proving the need to further evaluate and interview this online community.

The quantitative data, the collection of which is explained in the Methodology section, is content analysis research. As a newly constructed research opportunity I recognize the limits it has with the lack of a baseline. These data are far from exhaustive but examples of what future, wider research could find and how such research and experiments can focus on or include the people most affected.

The quantitative data is primarily a more objective background against which to set the participant interviews.

I cannot compare current findings to any before the pandemic or before the content ban of 2018. I cannot definitively say if content in either of these tags has increased, decreased, or become more heavily imbued with positive or negative messages relative to these benchmarks. Participant 1 states that, in their perspective, mental health-related content has decreased since 2018. This is potentially correct, or influenced by the users they personally follow if they do not go into specific tags. Additionally, if their perception on this is accurate, perhaps it is not particular to mental health content but a result of activity and user population decreasing overall on Tumblr, so most content became less common. Still, if it has decreased, it is still extremely prevalent as shown in the data results, with dozens of posts added every day in the 'Depression' and 'self harm' tags alone.

What also exposes Tumblr's ineptitude in managing content and challenges this interviewee's assessment is the twenty-three posts that included imagery of self harm, only three of them being drawings. From posts I read around the time of the 2018 ban, the artificial intelligence (AI) used was programmed to scan for general body or body part-like shapes as well as skin colours in pictures. When posts are found to have either, they were flagged and hidden

from others' view until appealed and reevaluated. If the AI still worked the same way and was in place throughout the website, the posts in these tags with pictures of arms and whole bodies should not have been visible. The effectiveness of the ban has been in question since its implementation, with seemingly having no effect on accounts run by robots, many of which steal pornography and erotic content. This finding provides more evidence to critique the motivations or abilities of Tumblr staff.

Though the quantitative results cannot be compared to earlier data, it still has further important information to analyze. For both tags, the amount of posts expressing negative messages of hopelessness or promoting dangerous behaviour significantly outnumber the positive or more helpful messages, and the repeat of the data collection one week after the first session further cemented that imbalance. The totals for the negatives even outnumber the positive posts when the three positive categories are combined against the two negatives. These tags, as participants have mentioned, are often places to vent, and that can imply a bias. However, many of these posts expressing, for example, hopelessness, implied a long-term feeling. These posts can also be part of a circling community as well, as discussed concerning echochambers. These data are cause for concern because they might be the only or the majority of content that some users see, just as participant 3 is able to see solely fandom-related content. Additionally, when depictions of self harm are presented publicly in the context that they are un concerning or able to be glorified, we must keep in mind the impressionability and potential young ages of Tumblr users. The internet is not responsible for raising young minds, that is not the point of this discussion, but we must be aware of this content and the fact that it can be an

influence on further dangerous behaviour or depressive thoughts. This is another complication in the discussion on censorship.

The replies of the second pinned message in both tags are also important. The replies, likely referring to the content blocking on the iOS application, indicate that the space in those tags was a place to vent. They also indicate the common belief that getting rid of the content will not ‘cure’ anyone, and users found safety in seeing the content of these tags. This post is heavily cross-tagged so the specific tag or tags these users are referring to is unclear besides one reply that specifically refers to the ‘anorexia’ tag. Still, from context and personal experience as well as the analysis of some tags, most of them that related to mental health or mental illness were places for users to vent and find community and reassurance. Participant 3 is another specific example of someone believing this change is harmful, providing evidence towards this concern in a more official form. The actions of Tumblr’s staff, according to the people those actions affect, have the strong potential to harm communities and stifle communication.

In comparison with quantitative data, the assessments of participants 2 and 3 are supported and well-founded. Mental health-related content is still a large presence on Tumblr. While much of it might seem largely neutral or more positive for some users, the content of specific tags is overall frequently negative. Taking from participant 1’s experience, we can consider that such content has decreased in commonness on Tumblr, as it is difficult to assess with the available data. The content someone sees on Tumblr is largely influenced by their interests and how actively they pursue those interests in exploring tags and following other users. This study with a few participants is indicative of the depths that further research could illuminate, as these findings already have interesting implications.

Conclusion

The academic literature I reviewed for this project is primarily restricted to 2019 and earlier. It does not delve into how intense isolation and change in social spaces resulting from COVID-19 might impact how the existing impacts of Tumblr are changing. This literature does, however, begin to explore the important perspectives of social media users in this time period. The results of this study indicate that the participants have varying relationships with Tumblr that have changed in the past decade and particularly in the past few years. For the three participants, Tumblr has been either a neutral space or an actively helpful space during the pandemic, though Tumblr's content is a more complicated issue. Tumblr staff's choices about content in recent years have been largely condemned by the users and criticized as restrictive and harmful. How this ongoing issue with staff, users, and an algorithm both preferred to others but still imperfect will be of extreme interest regarding the digital world and examination of digital cultures.

In this thesis I investigated a community that I have been part of for a decade. In doing so, I learned more concretely about trends I suspected in more recent years. I can continue my participation and observation with a better perspective on how different posts impact this community. There are millions of others who are part of it, and even more in the broader community of social media websites that concerns this research.

As detailed in this thesis, existing research is aware of a positive correlation between time spent using social media and worsening mental health. This correlation appears in measures of self-worth, loneliness, symptoms of depression or anxiety, off-line social relationships, and many other facets of mental health. Tumblr specifically is a very diverse platform with a structure that can create an insular experience. Other research findings include glorification or romanticization

of mental illness in ways that can worsen symptoms and detract from the desire to seek help. In addition, certain tags related to mental illness are dominated by potentially harmful content. The content on Tumblr and the format of it are potentially conducive to a harmful environment that would worsen someone's mental health.

The approach of this thesis to investigate more ethnographic research styles in addition to quantitative data collection demonstrates the potential significant findings of continuing such work. Major findings include that future research can improve through discussions and consistency of methods and by continuing to add interview and testimonial data that help develop the existing information on social media and its connection to mental health.

I reiterate that this work is not meant to blame or hold responsible anyone or any platform. In appropriate settings, people are free to express their beliefs, creativity, feelings, and troubles. Many teens today are struggling to cope with many problems that often include mental illness. We should not blame young people if their posts, that are not directly trying to hurt someone, express something they are personally coping with and end up as a cause of someone else being hurt. The complications of fault and blame are not the purpose of this study. I do not even mean to definitively say that Tumblr's format should change aside from rescinding certain censorship. Places of free expression are vital in a frustrating world where young people often have difficulty in understanding themselves as an individual.

Regarding identity, for example, it is not a negative that Tumblr causes many individuals to explore sexual orientation and gender identity and potentially realize they are part of the queer community. However, it is important to address that influence of the social media site because

those realizations can have negative effects. The intersectionality of queer identities and mental illnesses is also important to recognize in this discussion.

The purpose of this work is to help others in areas of social media studies and mental health to understand the role that social media platforms have and how it is important to continually examine how it is changing, especially after devastating events like the COVID-19 pandemic. This research indicates the importance of understanding online content and how it currently leans towards negative messages and influences. It also proposes a method to further understand these issues and their development on one of many social media platforms.

The other purpose is to say that, while Tumblr can remain as diverse as the platform has been, it should be aware of these trends in its users and respond better to mental health issues. Tumblr has ignored its users' preferences in the past for the sake of marketing and the several ownership changes over the past decade raise concerns for how much the staff will pay attention to worrying trends in content. Based on findings on Tumblr, mental health resources should be more visible and accessible on the website.

Tom Boellstorff, a digital anthropologist, established the importance of indexicality in digital anthropology, partially in the act of meaning-making (Boellstorff 2021). Indexicality refers to a word whose specific meaning is dependent on the context in which it is used. This is a notion the work of this paper has yet to address. Perhaps the interviews in this thesis would benefit from understanding the specific people they come from, though remaining anonymous. Knowing how the offline and digital worlds overlap for these people, one aspect of Boellstorff's indexicality discussion, could provide further insight into their perceptions of the website. The other aspect of indexicality is about the people a message or action comes from. The work of this

thesis could be furthered by discussing the categorized posts in the content analysis in the context of who posted them. Examining exactly who is putting out a message and who is receiving it could reveal more about its potential impacts.

Regarding broader social media than only Tumblr, the need for change is more apparent. Such sites are designed to draw engagement in an addictive manner. They are constructed in ways that enforce certain self-presentation that research indicates to encourage self-comparison and enable cyberbullying. The way in which social media sites are run, and the ramifications of that which are illuminated in this thesis, calls for correction.

Research on social media use and mental health continues to be a developing field. The interviews discussed in this thesis are examples of how testimony and qualitative work is beneficial and important to continuing research, and provides more information than summarized surveys alone can provide. Going forward, research in this field would benefit from deeper analysis of the experiences of participants. The textual and content analysis of this paper also indicates that experimental attempts to better understand the role of social media in our lives and mental health can provide thought-provoking data even though the execution can largely improve. Future attempts would benefit from longer trial periods and can improve upon how they measure and interpret measurements of mental health. They can also closely focus on evaluating the effect of indexicality on the impact of a post, or how it might change the assessments of the content analysis in this thesis. Future research like these experiments as well as more broad studies should ensure an awareness or acknowledgment of the variety of impacts on mental health and how that challenges the examination of social media's role in it.

With better understanding of the original inquiries of this paper, I would pose a few other questions for further research: In what specific ways can social media be changed for the improvement of its users' mental health? If at all, how has content on other social media sites changed, increased in abundance, or decreased in abundance over the course of COVID-19? Lastly, how would a larger sample size of Tumblr user interviews add to or deviate from the findings of this paper?

This paper provides a better understanding of the existing discussion on mental health and social media. It examines previous studies' methods and suggests areas in which researchers can improve and new directions research can go in. Additionally, this thesis attempts to further the discussion with a more qualitative, comment-analysis as well as start to explore and guide the discussion in light of the impacts of COVID-19. Daniel Miller, another digital anthropologist, stated that anthropology, because of its continued holistic methodology, is the most likely to appreciate the inherent contradictions and complexities of studying digital technologies. This thesis has found and explored some of those complexities and contradictions to help further the field of digital anthropology in its need to keep up with a rapidly changing environment. Social media is increasingly present in everyday life, so those who analyze the benefits and harms of social media platforms might face the challenge of making research as objective as possible. Anthropology recognizes that complete objectivity is not achievable in this work, which is another reason analyzing our own culture is invaluable, especially when it is as complicated as understanding if social media is more harmful or helpful to us. That is what many authors featured in this paper work to do, and what this author seeks to help others do.

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