

# Giving up Twitter for Lent: How and Why We Take Breaks from Social Media

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## ABSTRACT

Social media use is widespread, but many people worry about overuse. This paper explores how and why people take breaks from social media. Using a mixed methods approach, we pair data from users who tweeted about giving up Twitter for Lent with an interview study of social media users. We find that 64% of users who proclaim that they are giving up Twitter for Lent successfully do so. Among those who fail, 31% acknowledge their failure; the other 69% simply return. We observe hedging patterns (e.g. “I thought about giving up Twitter for Lent but...”) that surfaced uncertainty about social media behavior. Interview participants were concerned about the tradeoffs of spending time on social media versus doing other things and of spending time on social media rather than in “real life.” We discuss gaps in related theory that might help reduce users’ anxieties and open design problems related to designing systems and services that can help users manage their own social media use.

## Author Keywords

social media; Internet; self-control; willpower; breaks; media refusal; Twitter.

## ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

## INTRODUCTION

In late 2012, Baratunde Thurston, a popular comedian and Internet figure, decided to take a break from the Internet. He describes his experience of a 25-day digital detox [39]:

*“I considered fleeing to a remote island for a few weeks, but realized I wasn’t craving physical escape. I didn’t actually want to be alone. I just wanted to be mentally free of obligations, most of which asserted themselves in digital fashion.”*

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After his detox, Thurston warned that choosing to hyper connect and constantly share our lives leads us to risk not living them. Thurston’s concerns are widespread, ranging from everyday technology users in homes across the U.S.—parents of young children and teenagers, for example [48]—to social media public figures. Despite these concerns, little is known about whether individuals can control their own social media behaviors. Quantifying the success rate can help us to begin identifying how individuals manage social media use. Our first research question is:

*RQ1: To what extent are social media users able to manage their own social media use?*

Using social media to express a desire to take breaks from social media is a growing phenomenon among users, but is not well understood. Identifying what kinds of users want to take breaks and how they participate can help us to understand and address their challenges, and design systems and services to help users manage their own behavior. Thus, our second question is:

*RQ2: What are the characteristics of users who discuss taking breaks from Twitter?*

Little is known about the specific concerns users have about social media overuse. Users can be anxious about social media use, but the opportunity costs of not spending time elsewhere are not well understood. Beginning to understand the tradeoffs and narrative around life online can help us to better guide social media users to healthy and comfortable uses. Our third question is:

*RQ3: What factors drive social media users to consider taking breaks from social media, and what kinds of tradeoffs do they perceive about how their time is spent?*

We investigate these questions drawing on Twitter data among users who tweeted that they were giving up Twitter for Lent. We pair this data with 12 interviews conducted in with individuals recruited from Craigslist who considered themselves active social media users. We examine how taking breaks from social media relates to attitudes, media effects, and concerns about “real life.” Understanding these concerns can help us to design social platforms that help users to better balance social media in their lives.

## BACKGROUND

### Disconnecting from Technology

Why might people want to disconnect from social media? Many studies suggest that Facebook positively impacts well-being, social capital, and health [6,10], but others suggest it has a variety of negative impacts (e.g. [18]). Recent concerns have revolved around overuse, multitasking, and lack of face-to-face interactions [37]. For example, Sherry Turkle worries that we are becoming too emotionally attached to our devices and will lose our ability to maintain relationships with people [42]. Nicholas Carr and Jaron Lanier have described the sobering affect that the Internet has had on people's ability to concentrate, and on culture, creativity, and individual judgment [7,21]. Yet, even among these testimonies, there is a prevailing sense that we have the power to control technology use. Pico Iyer's *The Joy of Quiet* is an account of such control [14]. He paints the portrait of a young family stepping away from the screen to take a walk in the hills and describes vacations where individuals and families seek out technology-free time. Such pastoral depictions are familiar antidotes to the steady stream of technology in daily life [43]. A variety of applications exist to help people manage their own social media use. Stutzman's "Freedom" is an app that allows users to disconnect wireless on their computer for a pre-set amount of time. Freedom is one of a large number of efforts towards helping users regain focus and control over their online lives [22,27]. Such services have been lauded by high profile authors but critics protest against relying on software for self-control [29,33].

Taking breaks from technology requires self-control and willpower. Research suggests that people who believe that self-control is dynamic and unlimited tend to set more resolutions and are more likely to achieve them [15,28]. Individuals with high self-efficacy attribute failure to a lack of effort whereas individuals with low self-efficacy attribute failure to an inability to succeed. For this reason, people who believe that individuals have limited and pre-set amount of self-control performed worse on attaining their New Year's Resolutions [28]. However, self-regulation and other volition may in fact be a limited resource: people who exert self-control in one domain maintained less self-control subsequently, even in other domains [2]. Perhaps for this reason, people often struggle with keeping resolutions. The most common New Year's goals people set according to a 1998 survey included starting an exercise regimen, eating healthier food, and reducing consumption of tobacco, alcohol, caffeine, or other stimulants [26]. Even though 67% of the respondents in the study made three or more such resolutions, only 25% reported attaining even one of their resolutions successfully. People struggle to know how to control their own behaviors, even when they can easily identify a target behavior [3]. Establishing self-control with social media use manifests itself in a variety of ways. Two patterns we observe in the literature are quitters and break takers.

### Quitters

In general, reasons for technological non-use might include lagging adoption, active resistance, disenchantment, disenfranchisement, displacement, and disinterest [35]. A study of instant message users showed that users joined to socialize with their friends but stopped using the service because they were interrupted too frequently as their contact lists grew [5]. A survey study of Facebook quitters showed that they were more cautious about their privacy and have higher Internet addiction scores than Facebook non-quitters [38]. Their reasons for quitting include privacy concerns, feeling of becoming addicted to Facebook, negative feelings around Facebook friends, and general dissatisfaction. However, the study's sample of Facebook quitters on average had only quit Facebook 24.8 days before participating in the survey; many may have subsequently rejoined the site. A different study of Facebook non-use showed that concerns about privacy, data misuse, banality, productivity, and other pressures influenced participants to use Facebook less or quit entirely [4]. Portwood-Stacer's study of Facebook abstention described how individuals choose to stay off Facebook for political and performative reasons [31]. She argues that the practice of "conspicuous non-consumption" is performed as a critique of Facebook, and is a type of "media refusal" that echoes earlier practices, such as people who declare that they do not have a television.

### Break Takers

Quitters and break takers differ in their motivations and desired outcomes. Quitters seek to make long-term changes in behavior, such as resolving to stop smoking permanently. Break takers seek short-term changes in behavior, such as giving up chocolate for a period of time (though the long-term goal may involve consuming less chocolate overall). A recent study showed that 61% of Facebook users have taken a voluntary break from the site [32]. Among those users, 21% attributed their break to being too busy with other demands or not having enough time. Other reasons given were a lack of interest in the site, excessive gossip on the site, or concerns that they were spending too much time on the site. Though taking breaks is common, less than half of Facebook users ages 18-40 (between 34-42%) self-reported that their time spent on Facebook on a typical day decreased since the prior year. Giving up something for Lent is a type of break-taking and is the focus of this paper.

### An Overview of Lent

To explore how people take breaks from social media, we collected tweets in 2011, 2012, and 2013 from users who tweeted that they were giving up Twitter for Lent. Lent is a religious observance, commemorating the 40 days and 40 nights that Jesus fasted in the desert (Matthew 4:2).

Traditionally, Lent has been characterized by a period of fasting, praying, repentance, and giving alms during the period leading up to Easter [40]. Though Lent is primarily associated with Christian denominations, the practice of fasting, repentance, and moderation has been adopted as a

cultural practice in the U.S. among many individuals of various faiths [40,44]. While many people who participate in Lent will identify as practicing Christians, others may identify anywhere along a spectrum from devout spiritual believers to non-believers. Thus, motivations for participating in Lent may range from a desire to practice penitence and to celebrate the resurrection of Jesus Christ, to a desire to practice self-denial and willpower, to a desire to participate because friends, peers, or community members are participating. In most Western cultures, Lent actually lasts longer than 40 days because Sundays are not counted in the repentance period so the Lenten season typically ends up being about 46 days long.

HCI research has begun to consider how spirituality and computing intersect, focusing primarily on routines and domestic life and their relationship to religious practices [47]. Woodruff et al.’s study of Orthodox American Jews suggest that externally mandated respite from technology for strictly bounded periods of time and respite at the community level instead of the individual level are viable approaches to managing technology use [46]. Informal polls suggest that foods (e.g. meat or chocolate) are commonly given up for Lent, as are vices like alcohol or cigarettes [17]. More recently, in the early 21<sup>st</sup> century, social media sites and services have entered the picture and popular literature discusses people giving up sites like Twitter or Facebook every year during Lent [36].

## METHODS

On March 9, 2011, we observed Twitter users tweeting that they were “giving up Twitter for Lent.” Using the Twitter API and Perl scripts, we captured tweets of these individuals from the 40 days prior to Lent throughout the Lenten period until Easter. We repeated the process in 2012 and again in 2013 (see Table 1). We were not looking for a comprehensive dataset of all Twitter users who tweeted about giving up Twitter for Lent; instead, we wanted to observe a subset of users and carefully understand their behavior. This process leaves out variations but limits false positives. We chose this approach because it allowed us to conduct a type of observational study in situ with repeat observations. An observational study is one in which researchers observe the effects of changes in the environment where the assignment of treatments to subjects has been haphazard or out of the control of the researcher

Dates tweets captured	Num tweets	Dates user timelines crawled
Mar 8-10, 2011	6,911	Jan 28-Apr 22, 2011
Feb 20-22, 2012	8,219	Jan 12-Apr 6, 2012
Feb 12-14, 2013	12,325	Jan 4-Mar 31, 2013

**Table 1: Dates tweets captured 1 day before to 1 after Lent began. Dates user timelines crawled range from 40 days before Lent starts to 1 day after Lent ends except when number of tweets exceeds 3200.**

[34]. As is the case with other observational studies (e.g. studying medical conditions), systematically observing patterns as they unfold allows us to gain broader insights into the phenomenon of interest.

## Analysis

Two coders coded tweets in an iterative process: initially for topics by keywords but there was little consistency, then by intentions where we observed hedging patterns as defined by [19,25]. After this pass, we coded 400 randomly selected tweets by intent, hedging, or no intent and reached Cohen’s Kappa of 0.83 [20]. Using the phrases identified in coding, we wrote a script to categorize all tweets in the dataset, the author manually removed tweets that did not cleanly fit into each group (sarcasm was identified manually, e.g. “I’m giving up Twitter for Lent! #noway”). Sarcasm is currently difficult to detect algorithmically [41].

We observed linguistic patterns that could help us distinguish three categories of intentions. Using linguistic patterns, we organized tweets into three groups (see Table 1): Group 1 (n=142): confident proclamations about giving up Twitter (“*I am giving up Twitter for Lent*”); Group 2 (n=4393): pondering whether or not to give up Twitter (“*I thought about giving up Twitter for Lent*”), and Group 3 (n=532): proclamations about never being able to give up Twitter (“*I could never give up Twitter for Lent*”). The rest of the dataset did not cleanly fit into these categories, and consisted of a range of conversations about giving up Twitter, such as tweeting to a friend “I thought you were giving up Twitter for Lent.”

We manually read each tweet in Group 1 to remove sarcasm, negations, or other indicators that there was not intent to give up Twitter. We also read each corresponding user’s timeline during the period crawled to better understand the user’s overall Twitter behavior. We kept users whose giving up tweets indicated intention. The Group 1 sample we used had 148 tweets, 45 from 2011, 42 from 2012, and 61 from 2013. We performed a survival analysis on this group to observe what fraction “survived” throughout the Lenten period. Survival analysis addresses questions about how long a population will survive in a given setting for a particular lifetime and what might explain the survival or death patterns. This approach is appropriate here because of the non-normality of the data.

Survival methods differ from regression analysis by handling what are called “censored” cases, those that drop out or die before the end of the lifetime. We define lifetime in our analysis as 40 days (with Sundays in the Lenten period removed from analysis). The interval is 40 days, the indexed event is returning to Twitter, and the survival rate is the proportion of tweeters who have not yet returned to Twitter at the 40+X day mark. We plot a survival function,  $f(t) = P_r(t_n > t_0)$ , where  $t_0$  is the start time and  $t_n$  is the time of death.  $P_r$  is the probability of survival and  $f(t)$  is the survival function.

	Gender	Age Range	Employment	Type
P1	F	40-45	Student	email
P2	F	15-20	Student, Employed	email
P3	M	25-30	Employed	email
P4	F	20-25	Employed	email
P5	F	25-30	Student	email
P6	F	20-25	Student	email
P7	M	45-50	Employed	email
P8	F	35-40	Homemaker	email
P9	M	50-55	Unemployed	phone
P10	M	20-25	Unemployed	phone
P11	M	30-35	Employed	phone
P12	M	35-40	Employed	phone

**Table 2: Interview participant demographics. The average email transcript length was 3.5 pages and phone conversation was 41 minutes.**

### Interview Study

We posted an advertisement on Craigslist in March 2013 in three major metropolitan regions with diverse populations in the United States: Raleigh, San Francisco, and Detroit. The recruitment message we used began with: “Do you use Twitter or Facebook or other social media sites? Have you ever thought about giving up any of these sites?” Participants were offered \$30 compensation for participating in the interview. We received over 30 responses in 9 days and removed the advertisement on the 10<sup>th</sup> day. Interviews were conducted by telephone or by email depending on participants’ preferences. Because we were recruiting heavy social media users, we wanted them to be comfortable in their chosen communication forum. The majority of users chose email. The interview asked participants about their social media use, attitudes, and engagement. We conducted interviews until we reached data saturation after the 12<sup>th</sup> interview, hearing consistent

stories about attitudes and behaviors with respect to social media use. We iteratively coded interviews for emerging themes using an inductive approach [45]. We note that we first recruited users who had tweeted about giving up Twitter for Lent to participate in our interview study but were unsuccessful. The response was low and/or negative so we recruited on Craigslist. Though we were investigating aggregate patterns, contacting individuals about their Twitter use, on Twitter, may have been invasive.

## RESULTS

### RQ1: Success Rate of Giving up Twitter

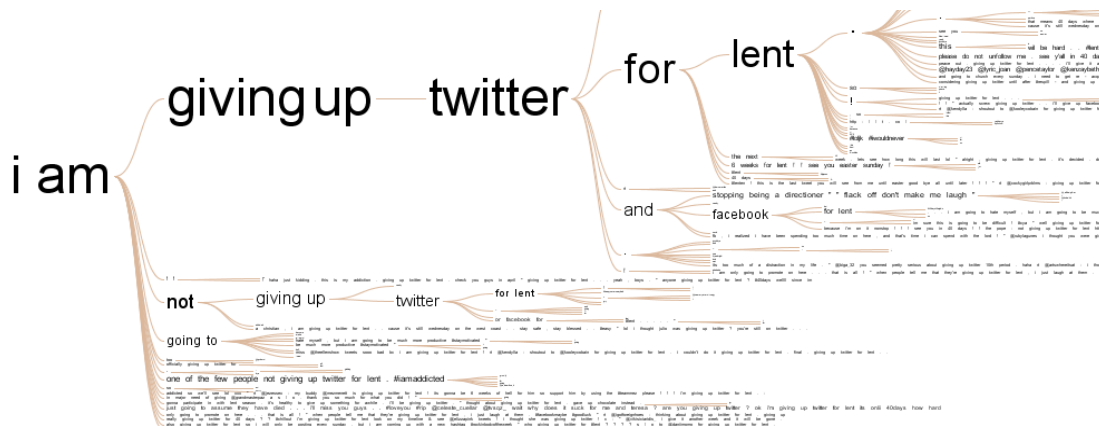
For the first stage of analysis, we focus on Group 1 tweets, where users proclaimed that they were giving up Twitter for Lent (see Figure 1). For example, a user tweeted: “*This year I will be giving up Twitter & Facebook for Lent. See you in 40 days internets!*” We interpret this as signaling intent to give up Twitter for Lent.

Among this group, 64% successfully gave up Twitter during the Lenten period. Among the remaining 36%, 13.3% (or 5% of the total group) only tweeted one or two times during the Lenten period and were thus largely successful at staying off Twitter. Figures 2a-c show the survival graphs of total tweets plotted by the period leading up to Lent and through Lent in 2011, 2012, and 2013.

The graphs show that in 2012, tweet frequency increased over the period leading up to the beginning of Lent, but the pattern was not observed in 2011 or 2013. We cannot tell why this might happen, though it could be an anomaly due to small sample sizes. We also plotted survival by individual user (not shown) to see if users fatigued over time; in other words, did they increasingly return to Twitter as the Lenten season progressed? We did not see evidence of this; users who failed did not reveal systematic patterns in how they returned.

### RQ2: Qualitative Observations of Survivals and Non-Survivals

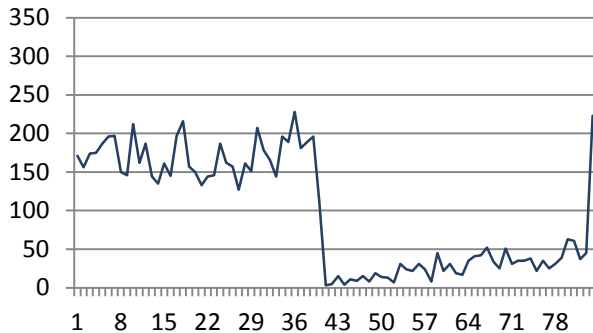
Users who “survived” their Lenten break typically announced their return with announcements like “I’m back



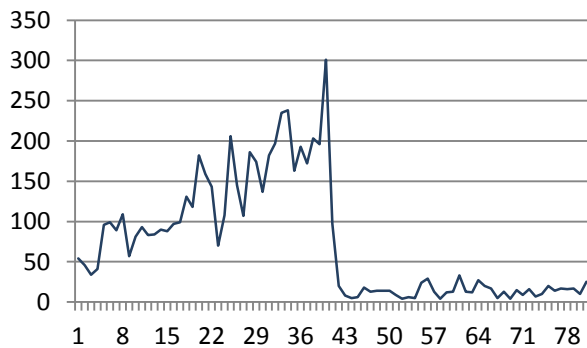
**Figure 1. Word tree visualization of tweets about giving up Twitter for Lent using Many Eyes software.**

from Lent, what did I miss?" From their timelines, some users appeared to scroll back through their Twitter feeds to catch up on earlier conversations while others reengaged with their networks real-time. Unlike the beginning of the giving up process, few users reflected on the experience of giving up Lent even after completing it successfully. Some young adult users chatted with friends about being back but we did not see any evidence of longer reflections, such as links to blog posts or Tumblr entries, about the process.

2011 survival graph (n=45)



2012 survival graph (n=42)



2013 survival graph (n=61)

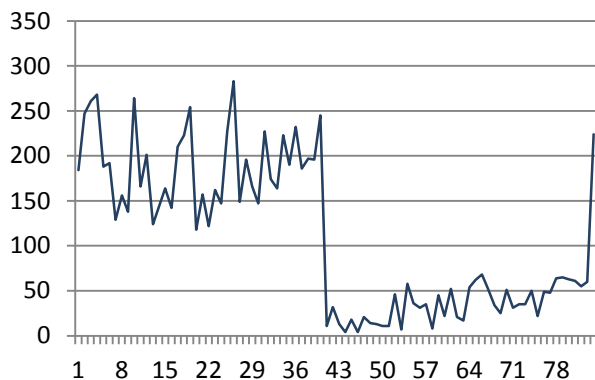


Figure 2a-c. Survival graphs for Group 1 users. X-axis is 40 days leading up to Lent + 40 days during Lenten period + 1 day after Lent ends. Y-axis is cumulative tweets from users.

Among users who did not survive the full Lenten period, just under one-third (31%) of participants acknowledged their early return openly. The remaining 69% did not overtly acknowledge their return and that they had been trying to give up Twitter for Lent. Some participants' returns were brief and sporadic and suggest that they were conscious of their Lenten commitment though they did not mention it explicitly: "Wanted to tweet about Breast Cancer Walk I'm doing soon. Please help if you can! [link]"

One subject, a female young adult (based on her Twitter profile), returned to Twitter after 14 days and tweeted: "Being called ugly hit me way harder than I ever expected it would." and "That made me give up on giving up twitter for lent." She then retweeted a friend's tweet: "Why are people so mean?" Users like this one who acknowledge their returns typically expressed reasons for returning beyond simply being able to not stay off, such as that they needed to come back on share some information or news or engage in a conversation.

#### Hedging about Giving up Twitter

This section describes tweets from Group 2 users, who talked about giving up Twitter, but stopped short of proclaiming an intention to do so. Examples of these kinds of tweets in the dataset include:

*In a weak moment I thought about giving up twitter and facebook for lent but I'm not strong enough #goodluck*

*I don't know how people are giving up twitter for lent #addicted*

*I thought about giving up Twitter for #lent until I realized the first thing I want to do about this decision is tweet it. #irony*

*Thought about giving up Twitter for lent, but then I thought... Jesus didn't give up on his followers. So I won't #BitchesBePreachin'*

*I was thinking about giving up twitter for lent.. But I don't think it's physically possible for me to go a day without tweeting.*

We observed curious hedging patterns emerge. In linguistics, a hedge is a word that mitigates or reduces the impact of the statement [19,25]. Hedging patterns surface a vibrant culture of talking *about* social media, even among users who do not appear to intend to change their behavior. Research suggests that hedges cause people to think more about the content or information that is being hedged [24]. After people hear a hedged story, they are less likely to repeat it to someone else as they are a non-hedged story, but they are more likely to think about the story that was hedged [24]. This may be because more thought and consideration is needed to interpret a hedged statement.

Here, hedging refers to content where users openly considered giving up Twitter, decided that they would not

be able to give up Twitter, or wondered aloud if they should try. A tweet about giving up Twitter with no hedging might say: "I am giving up Twitter for Lent. I'll be back in 40 days." In contrast, the semantics of hedging tweets varied from "I'm going to try to..." to "I thought about..." to "I don't think I could..." The identifying hedges in these statements comprise at least 16% of the dataset (there are likely to be many more types of hedges than we identified), such as: "I was" (2.2%), "I don't" (1.45%), "I think" (1.97%), or "I thought" (2.1%). Figure 3 shows word tree visualizations of hedging patterns related to giving up Twitter for Lent where branches reveal hedge words like though, think, was, don't, etc. What we cannot interpret from these tweets is why so many people talk about giving up Twitter, but hedge, and do not appear to intend to do so. We turn to the interview data to answer these questions.

### RQ3: Why Take Breaks from Social Media

Three concerns surfaced among interview participants with respect to social media use: spending too much time on it, tradeoffs of not spending time elsewhere, and a concern about social media not being "real life."

#### Spending Too Much Time on Social Media

Younger participants generally incorporated social media use throughout their day. P2 said she checked Facebook as soon as she woke up, posted a picture to Instagram after getting ready for school and checked Facebook about five times during each class period as well as during breaks, lunch, and after school. She remained on Facebook throughout the rest of her day and through bedtime then woke up with her iPod Touch and started again. P2 had taken a break for a week and felt that it was good for her:

*I felt healthier, like I had more breathing room... I took the break because I felt the online drama was ridiculous and overwhelming.-P2*

She nonetheless told us that giving up social media for a week and not knowing if she was being messaged or not was nerve-racking. A month would be "torture" at first but she would learn to break her habit. P2 felt she would be doing more outdoor activities like sports and running and more social activities like visiting friends instead of looking at what they were doing online. Interestingly, she told us:

*Forever would be perfect because I wouldn't be stressing over online situations.-P2*

P6 shared a similar day as P2, reporting that a Facebook tab was always open on her computer and she monitored Twitter "24/7" except when she was in class, at the gym, or in a meeting. P10 similarly spent a lot of time on social media and acknowledged it was probably very "unhealthy."

P9 was both unemployed at the time of our interview and also a self-described introvert. He explained to us that because of both of these characteristics he spent a lot of time online but was conflicted about it. He had tried to use the computer less but felt he was unsuccessful:

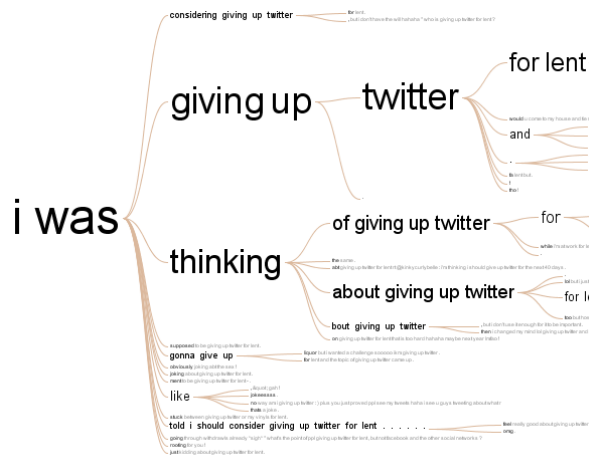
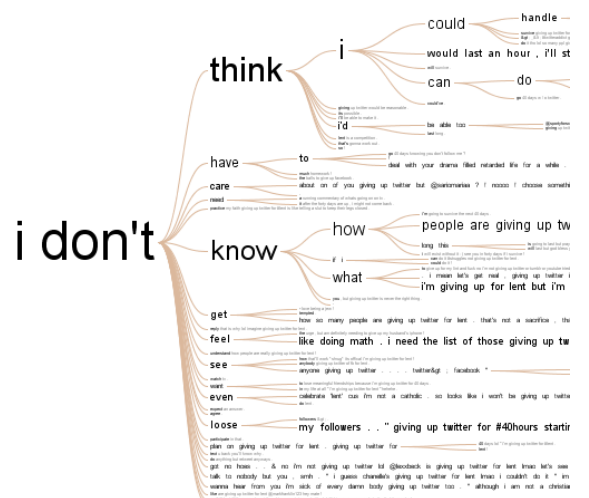


Figure 3. Word tree visualization of hedging patterns about giving up Twitter.

*I tried reading. But then I said well I can just read online. I tried taking my dogs for walks but that only takes so long. Everything I tried doesn't work. I'm addicted. -P9*

He felt using Facebook less would give him time to take walks outside and find a job, but he worried he might find some other habit to “fill the void of the Internet.” When we asked if feeling addicted worried him, he replied that it was a lesser addition than the alcohol (he was a recovering alcoholic) though it was still bad because it was trading addictions. He felt that Facebook was “eating my brain or something.” Despite these concerns, P9 claimed that he was less lonely because of Facebook and other online social sites that he visited. He told us that he now interacted with people more than he ever did before.

Other participants were less concerned about the amount of time they spent on social media. P1 said the amount of time she spends on social media is “adequate.” “It is every few hours, but I'm only on the sites for most times, one to two minutes.” At the same time, however, she said that she had not taken a break herself because she was way too “nosey.”

*I won't lie, I feel like Facebook is as important to me as eating or doing other daily tasks. I would miss it very much and would never want to be away from it. It is my line to my dearest friends and a way to stay in touch regardless how far or busy they become. -P1*

Some participants told us that while they personally had not taken breaks with social media, they had friends who had done so for a variety of reasons, including because the temptation to flirt was too strong (P1), while applying for jobs (P3), or during political periods like the presidential election (P4).

#### *Tradeoffs of not Spending Time Elsewhere*

Interview participants framed their social media use in terms of tradeoffs and what they would have been doing otherwise with their time. For example, P3 said he tended to cut down on social media when he had a lot of things going on his life. P5 similarly cut down on use when she felt Facebook was becoming a distraction from her homework and she had taken a break from Facebook for a month while she was studying for the bar exam. P6 had not taken breaks but considered it and worried that her Facebook was starting to replace in-person communication. P4, like P1, was comfortable with the amount of time she spent on social media. However, she also expressed her time in terms of tradeoffs, saying that she would probably watch television instead since she typically looked at Facebook during her downtime.

#### *Social Media versus “Real Life”*

Participants told us that social media use took away from “real life.” They talked about “in real life” and “the real world” frequently, terms we return to in the discussion section. For example, when asked about taking breaks from

social media, P7 said he had because “life prompted me, you get busy and living a real life becomes number one.” P11 similarly said:

*I wish I had more of a real life. Sometimes I thought about deleting my [Facebook] account but I never do. I thought about deleting my friends but I never do that either. I wish my friends online were my friends in real life.*

When asked what he meant by real life, P11 continued:

*I mean I wish I knew more people in real life outside of my house. I feel like I spend too much time online and not trying to deal with life. At the same time, if I wasn't making friends online, I would just be sitting at home doing nothing. -P11*

Like P11, P12 said it would only take him a few days to adapt if he had to take a break from social media and imagined he would read, go outside, or social network with “real people” more.

## **DISCUSSION AND FUTURE WORK**

In summary, results show that more than half of users who tweet about giving up Twitter for Lent successfully do so. Many users hedge about taking breaks, wondering if they could do it, but not expressing intent to do so. Some users also discuss taking a break but say that they will not, or cannot. Interview participants tell us that reasons for taking breaks included concerns about spending too much time online, tradeoffs of not spending time elsewhere, and concerns about the disconnect between time online and “real life.” Here we consider possible explanations for why users develop concerns about social media and how we might better support them.

### **Media Effects and the “Real World”**

Media effects theory suggests that people's perceptions of social media will be influenced by what is reported in the news [1]. Goffman's norms theory highlights the potential negative impact on an individual's self-esteem:

*Given that the stigmatized individual in our society acquires identity standards which he applies to himself in spite of failing to conform to them, it is inevitable that he will feel some ambivalence about his own self” [12].*

Unfortunately, mainstream media can be sensationalist, serving harbingers like the “dark side of Facebook” [30] that are not strongly supported by empirical evidence [6,10]. Our interview participants felt they were spending too much time on social media, or it was costing them time that could have been spent doing something else, but their understanding of these tradeoffs was vague. Participants conveyed a sense of judgment and stigma around social media overuse. Overuse implied a lack of control or lack of other more important or meaningful things in one's life. This echoes sentiments from related work, which suggest, for example, that parents do not want to seem like they are

spending too much time on a site like Facebook because it might appear to other parents that they have nothing better to do or are not sufficiently attending to their jobs as parents [48]. Some Twitter users in Group 3, who tweeted about never being able to give up Twitter, used terms like “addicted” and “obsessed.” Participants may have been worrying more than they needed to about social media, causing anxiety and stress which are well-known to have negative health outcomes (e.g. [49]).

#### *Moral Panics*

Moral panics describe concerns about a condition or phenomenon that might threaten social values or order [13]. Moral panics about social media are extensive and range from concerns about sexual predators to inability to focus to lack of ability to communicate face-to-face. Consider a recent news story where a spokesperson for the Russian Orthodox Church advised its followers to give up social media for Lent in 2013 in order to cleanse the soul [9]:

*“I don't mean just people who use depraved, entertaining, stupid and empty information. Even useful information, that relates to our work and well-meaning interests, clogs the brain and soul too much... Giving yourself several hours or 15 minutes of time during Lent to not read curses on social networks, but serious texts, serious art, prayer, unhurried conversation with close ones.”*

High profile messages such as this one convey to social media users that their social networking site use is a waste of time, and should be spent elsewhere. Indeed, social media use can carry stigma when it is used poorly or overused (e.g. posting too often or over-sharing personal information).

These types of concerns differ from the “conspicuous non-consumption” behaviors described by Portwood-Stacer. Participants in her research refused Facebook as a political statement whereas ours were focused on concerns about managing their own behavior. Though both share concerns that social media can be a waste of time, Portwood-Stacer’s participants did not struggle with the behavioral challenges of disconnecting from social media, but instead from the impact disconnecting had on relationships and social status. In particular, conspicuous non-consumption was often perceived by observers as self-righteous elitism [31], and non-users had to negotiate such perceptions. However, participants in her study as well as ours engaged in performative behaviors as they negotiated their relationships with social media. This public performance transforms individual concerns about social media into societal concerns. Social media users become challenged to not only reflect on their own behavior but to learn how to filter and assess the impact of societal-level moral panics and media effects on their own behavior.

#### *The Real World*

Perhaps a result of these individual and societal concerns, participants expressed an interest in spending less time online and more time in the “real world” but scholars have debated this dichotomy [43]. “Digital dualism” describes a belief that online worlds and offline worlds are separate and distinct realities [16]. Digital dualists hint (and sometimes say outright) that the offline world is better than the online one, as indicated by Turkle, Lanier, and Iyer’s narratives about the benefits of face to face communication and communing with nature [14,21,42]. The extended-mind thesis argues that the boundaries between the mind and the tools it uses are fuzzy (see [37]). This thesis would suggest that the digital devices we use have become an extension of our own identities and selves. As such, social media use very much is a part of “real life.”

These tensions are deeply problematic. People who should use social media less because it is actually negatively impacting their lives in some measurable way (e.g., sleep, health) need better frameworks for knowing how to adjust their behavior. However, people who worry about their social media use as a result of media effects and moral panics may be suffering unnecessary anxieties. Future work should look to differentiate behavioral indicators (what people are actually doing) versus perceptions (what they are led to think they are doing).

#### **Designing for Social Media Use and Overuse**

Our results offer implications for designing technologies that help users gain self-awareness and self-control. A growing body of research, often referred to as personal informatics, health informatics, or quantified self, has focused on designing interfaces and devices for collecting and reflecting on data in domains such as fitness, nutrition, wellness, mental health, and sustainability [8,11,23]. However, these approaches require motivation and agency from users, who must decide they want to change their behavior in order to acquire and adopt such a technology (e.g. Fitbit for tracking steps). Even technologies that remove agency from users, such as Stutzman’s Freedom application, require that users take the first step of paying a small fee and downloading the software.

Using technology to moderate frequency of use is likely to be a growth area. After the deaths of young video gamers, the Chinese government launched a campaign requiring gaming companies to create within-game prompts to players under 18 to take breaks periodically [50]. Other technical configurations may indirectly impact behavior, such as Netflix’s periodic “Are you done watching?” if an account has let multiple episodes of a series play without interruption. Though designed to limit bandwidth, such a prompt could impact users’ behavior. Participants had tried strategies to lessen social media use, such as taking walks, or disconnecting during exams, but did not report long-term effectiveness with these strategies. We can envision a class of social media applications that help users to better balance



social media engagement. However, such applications will have to balance users' desire for free will (e.g. control over their own behavior) with having a positive impact on their behavior.

### Limitations

Studying Twitter allows us to observe natural behavior, but there are limitations in how this data can be interpreted. Indirect observations do not tell us what users are doing or thinking. Users may have been checking Twitter but not tweeting. Follow-up studies could use experience sampling or diary studies to capture interactions between other parts of users' lives and their Twitter use and to observe their subsequent use after Lent. Observing Twitter behavior is a "disguised observation" where users do not know they are being observed. Though this is typical in Twitter research, capturing tweets about users' intentions and then documenting their (sometimes) failure to follow through could be intrusive or embarrassing. For that reason we chose not to quote usernames but it leaves us with a less rich explanation of users' identity and behavior. Users who tweeted about giving up Twitter or responded to Craigslist ads may be more active social media users than average.

### CONCLUSION

Social media has become a pervasive part of everyday life among people in developed countries. However, there are growing concerns about overuse. This work documents one approach to managing use: giving up Twitter for Lent. 64% of users successfully give up Twitter during Lent; among the remaining 36% about one-third (31%) acknowledge their return to Twitter and the other two-thirds (69%) simply return. Users wondered how much time they should be spending on social media sites and whether they are potentially compromising other parts of their "real lives." This work surfaces gaps between theory and practice, such as whether users' self-perceptions are influenced by media effects and moral panics about social media. This work also surfaces opportunities for developing new approaches and applications that help users to better manage their own social media behaviors.

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