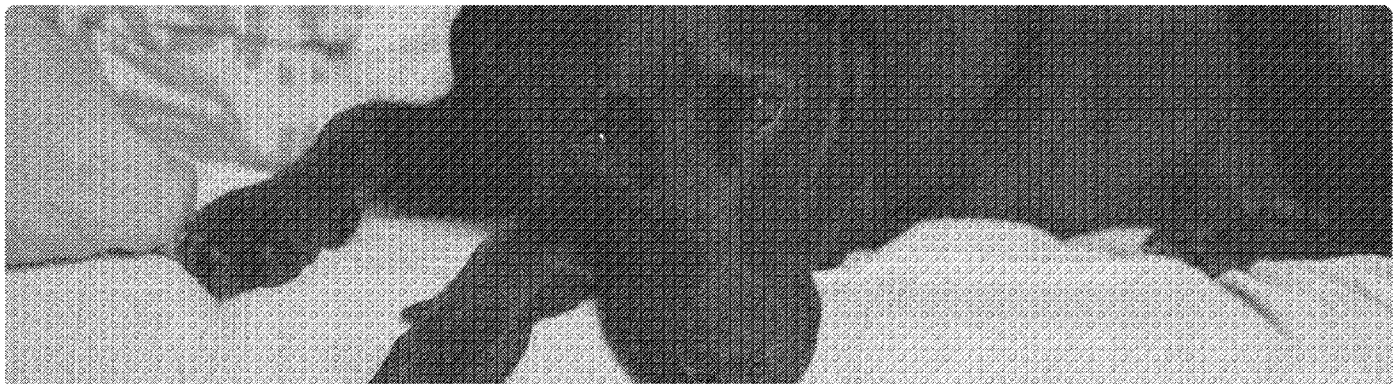
Problematic Facebook use: When people feel like Facebook negatively affects their life

Justin Cheng · Last edited July 31, 2018 · 21 minute read

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Problematic Facebook use: When people feel like Facebook negatively affects their life

Moira Burke and Justin Cheng

As a company, we want to ensure that people have control over their Facebook use and that it doesn't harm their well-being. However, we often hear stories about "Facebook addiction" in the press. We take these issues seriously, and though Facebook use may not meet clinical standards for addiction [1], we want to fix the underlying design issues that lead to this concern.

In this study, we find that that 3.1% of Facebook users in the U.S. experience serious problems with sleep, work performance, or relationships that they attribute to Facebook and find difficult to change. We refer to this as "problematic Facebook use," in line with prior academic research on "problematic Internet use," which has identified problem rates of 2-8%.

Here we identify (1) FB activities that are most strongly associated with problematic use and (2) the kinds of people who are most likely to experience problematic use. Our goal is to offer supportive, appropriate tools for people who may want help changing their behavior, and by thinking about the most extreme cases, we can develop designs that benefit everyone.

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Tennessee v. Meta
Case No. 23-1364-IV
PX-00026

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Summary

- We define "problematic use" as having both:
  - Serious problems with sleep, work, or relationships that they attribute to Facebook
  - AND concerns or preoccupations about how they use Facebook (e.g., a fear of missing out (FOMO) or lack of control)
- 3.1% of Facebook users in the U.S. experience problematic use
- People who feel like they have a problem:
  - Are more likely to be men, and either teens or people in their 20s
  - Spend about 19 minutes more per day on Facebook, have about 15 more sessions per day, and spend a greater proportion of their sessions late at night
  - Receive more notifications and respond to a greater proportion of them
  - Spend a smaller proportion of their time in News Feed, and a greater proportion in Messenger and hopping between profiles
  - Temporarily deactivate their accounts more
  - Read more posts and comments containing words about "social media"
  - Have lower well-being, but feel like the time they spend on Facebook is more valuable, compared to people who don't feel like they have a problem. (We discuss this contradiction below.)
- We should:
  - Help people consolidate their use of Facebook into fewer sessions, with more control over notifications (e.g., the "Do Not Disturb" product or education about notification controls) so that they don't need to deactivate their accounts to gain control
  - Think more about the expectations to respond quickly that we facilitate with Messenger and feedback
  - Consider ways to break people out of "the flow" when they feel out of control (e.g., with an interstitial), or to give them prompts to pause and reflect

Method

We paired a survey of 20,000 U.S. Facebook users measuring perceptions of problematic use with demographic and behavioral data for the prior month. In the survey, we asked questions adapted

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from existing literature on Internet addiction and problematic use cases on Internet addiction and problematic use cases (see full survey):

Negative life impact:

- How often do you get less sleep than you want because you're using Facebook?
- Overall, how much does your use of Facebook hurt your relationships with others?
- To what extent does Facebook help or hurt your work or school performance?
- Overall, do you feel like Facebook has had a positive or negative impact in your life?

Concerns:

- How much control do you feel you have over the amount of time you spend on Facebook?
- How concerned are you about missing important posts on Facebook if you don't log in frequently enough?

Defining problematic use

We define problematic use as person who has:

- one or more **serious problems in life** they attribute to Facebook:
  - Facebook hurts their relationships "very much",
  - they "very often" or "always" get less sleep because of Facebook,
  - Facebook hurts their work or school performance "greatly", or
  - Facebook has a "very negative" impact on their lives
- AND one or more **concern about how they use FB**:
  - "very little or no control" over the time they spend on Facebook, or
  - are "very" or "extremely" concerned about missing posts from not logging in frequently enough (FOMO).

By this definition, **3.1% of Facebook users in the U.S. experience problematic use**. This estimate has been weighted by age, gender, and time spent.

Why choose that definition? There are lots of ways to think about defining problematic use:

- The most liberal definition would be that 14% of our survey respondents report spending "a lot more" time on Facebook than they want to.

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- Alternately, 11% report one of the negative life impacts (serious problems with sleep, work performance, relationships, or that FB has had a "very negative impact" on their life).

However, we want to be careful not to label casual choices (e.g., choosing to stay up late to use Facebook) as seriously problematic if people still *feel in control* of those choices. So, our definition includes both a serious life problem attributed to Facebook PLUS feeling out of control about it. (See our analysis notebooks for more about responses to each survey question and weighting.)

Why not target the heaviest Facebook users? We want to understand the prevalence of problematic use among the general population. People who use Facebook moderately may still feel like it causes problems in their lives and that they use it too much, and some of the top users may experience the most value. Our past research suggests that it's not how much time you spend on Facebook but how you use it that matters for well-being. Other research for the Do Not Disturb product tests focuses on the top 1% of people by time spent.

Age, gender, and major life events

Problematic use is highest among teens and people in their 20s, consistent with previous findings that younger people generally have more problems with self-regulation. This is also consistent with Crystine's research on time control.

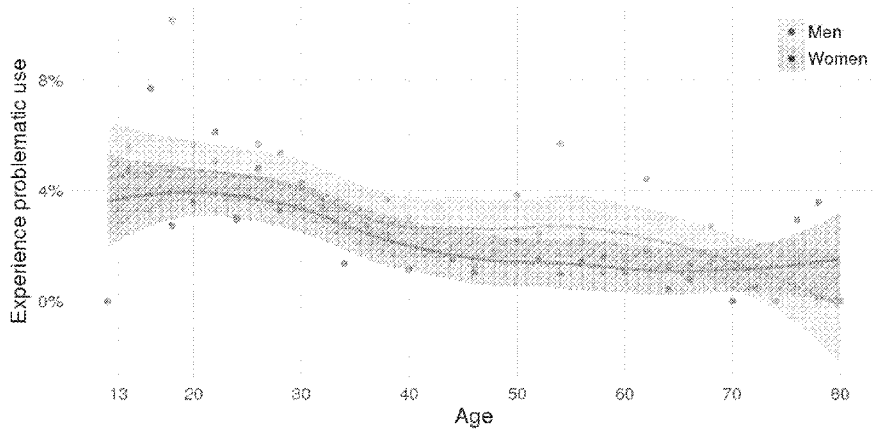


Problematic use is highest among teens and people in their 20s.

Men are about 1.3x as likely as women to report problematic use: Among survey respondents, 3.1% of men report problematic use, while 2.2% of women report problematic use.

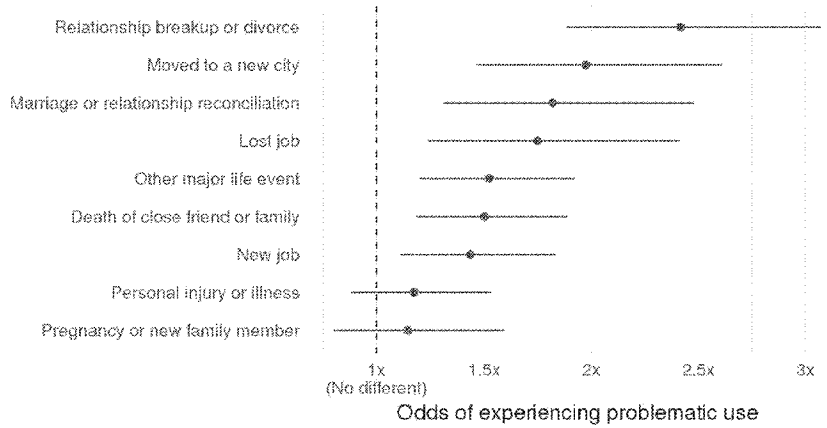
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Men are more likely than women to report problematic use.

We also asked participants if they had experienced any major life events in the past two months, and found that these events are also associated with feelings of problematic use. For example, a person who recently went through a breakup is 2.4 times as likely to report problematic use as a person similar in age, gender, friend count, and tenure who didn't go through a breakup. Similarly, a person moving to a new city is roughly two times as likely to experience problematic use. These major life events come from the survey, not posts, so they aren't simply a proxy for engagement or tech savvy.



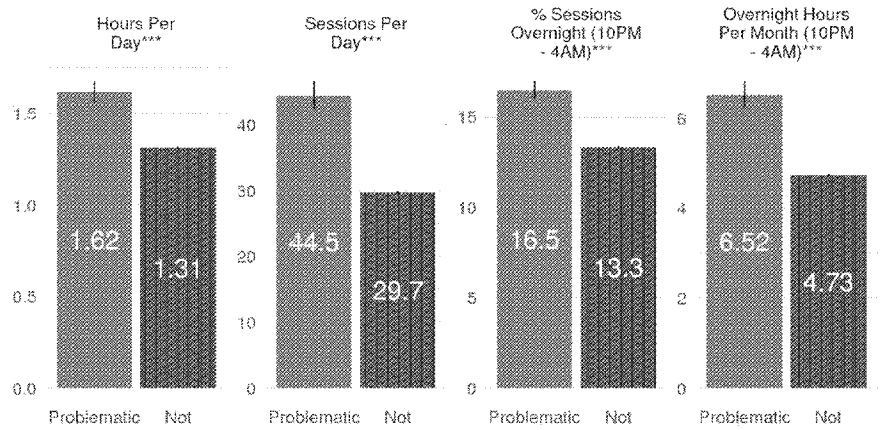
Major life events such as breakups and divorce are associated with feelings of problematic use.

Time spent, sessions, and passive consumption

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People who feel like they have a problem spend more time on Facebook. They spend 19 more minutes per day (1.6 vs. 1.3 hours per day; see plot below). See [2] for statistical details. They spend more time on mobile, though they don't spend significantly more time on desktop.

They also access Facebook far more frequently, with about 50% more sessions per day (45 vs. 30). Relatedly, previous internal work found that people who deactivated because they felt like they spent too much time on Facebook also had more sessions per day. There were no significant differences in session length, though people with problematic use return to Facebook more frequently: 29% of their sessions are within 5 minutes of a previous session, compared to 23% of sessions for people without problematic use (not shown). They also spend a greater proportion of their sessions online late at night.



People who feel like their use of Facebook is problematic spend more time on the site and have more sessions than people who don't experience problematic use. They also have a greater proportion of sessions late at night, and spend about 2 extra hours per month on Facebook late at night. (In all charts, ** $p < 0.01$ and *** $p < 0.001$ in a regression controlling for age, gender, friend count, and tenure, see [2] for statistical details.)

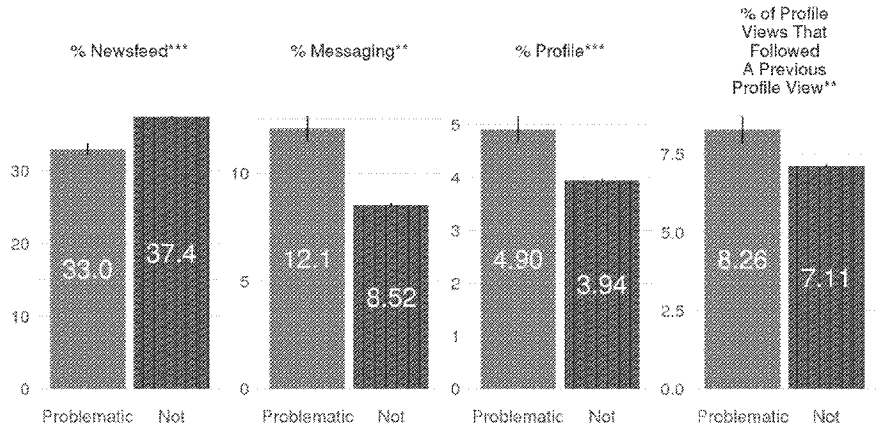
Where do they spend their time? Somewhat surprisingly, they spend a smaller percent of their time on News Feed, and a greater percent of their time on Messenger and Profile. Messenger may create more pressure to respond immediately, reducing feelings of control, despite typically being considered an "active," meaningful form of relationship maintenance. Or, it may be that they are trying to start conversations with people who aren't interested or available. They also hop between profiles more, possibly to find conversation partners or older content, though looking at others' profiles may also trigger feelings of social comparison.

Did people experiencing problematic use spend a smaller percent of time on News Feed because they've run out of content to look at? The data suggest this isn't the case. They only consume 48% of the content their friends produce, compared to 45% of friends' content viewed by people who

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don't experience problematic use, and the difference is not statistically significant. If they were exhausting their feed inventory, we would expect them to have viewed a significantly greater percentage of the total available friend inventory. There are also no significant differences with respect to fraction of group or page inventory consumed.

They spend the same percent of time on other products (videos, groups, composer, photos, pages, notifications, events — not shown). All of the comparisons account for age, gender, friend count, and tenure, so any differences are not due to demographics (e.g., teens using Messenger more).

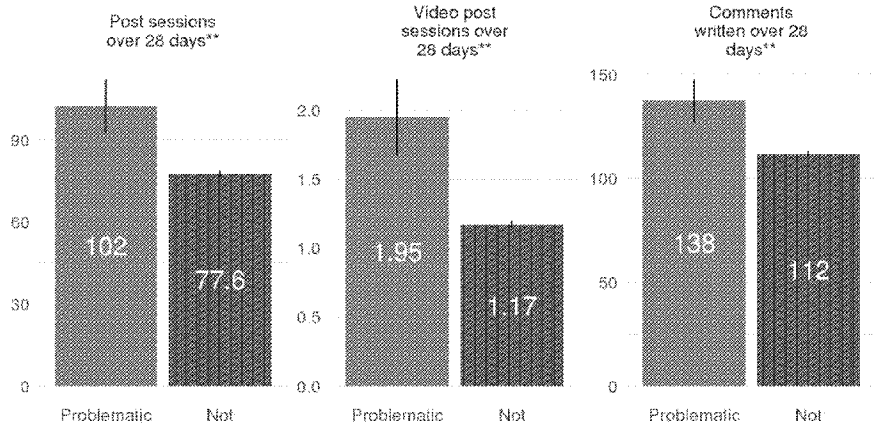


People who feel like their use of Facebook is problematic spend a smaller percentage of their time in News Feed, and a greater percentage of their time in Messenger and Profile. They are also more likely to "hop" between profiles.

Content production. Since they spend more time on Facebook, it's not surprising that people who report problematic use also produce more content. They have more post sessions, particularly video post sessions, and more comments than people who don't experience problematic use. They do not produce more likes or reactions.

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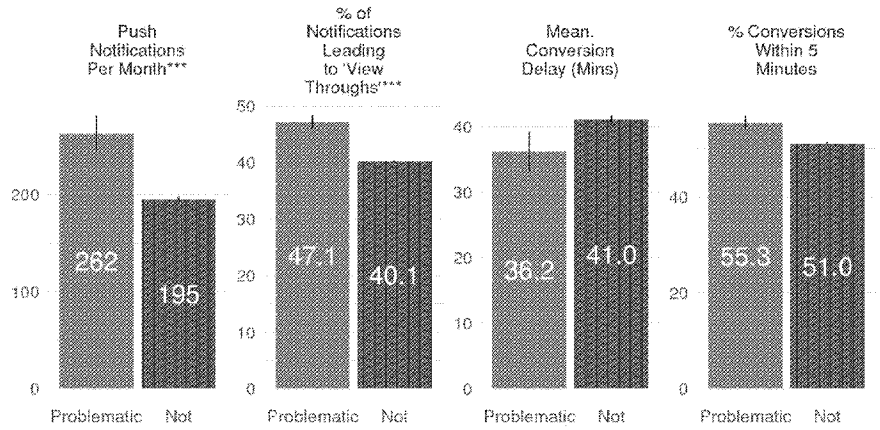
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People who feel like their use of Facebook is problematic produce more content.

Notifications and tagging

People who feel like they have a problem receive more push notifications and "view through" a greater proportion of them [3]. Though they also respond more quickly to those notifications, those differences are accounted for by age, friend count, and tenure. In academic experiments, smartphone notifications caused inattention and hyperactivity among teens, and they reduced productivity and well-being. This suggests the value of "Do Not Disturb"-related products in reducing or limiting notifications, or in identifying contexts where notifications may be undesirable.



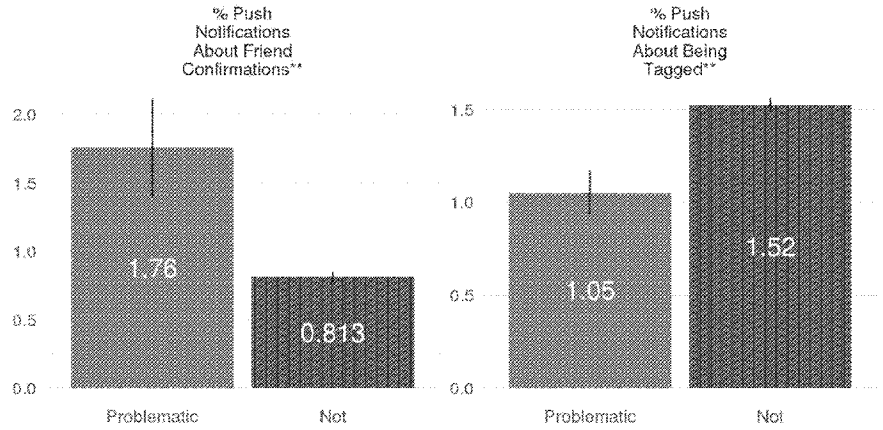
People who experience problematic use receive more push notifications per month, and respond to those notifications more often ("view throughs"). Though they also respond more quickly (lower

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conversion delays), those response times are accounted for by age, friend count, and tenure, rather than problematic use status.

What kinds of notifications are they getting? The mixture of notifications (e.g., about birthday reminders and comments) is similar between people with problematic use and non-problematic use, with two exceptions (see plot below). People experiencing problematic use get a greater proportion of push notifications about friend request confirmations (perhaps not surprising because they have more friends), and a smaller proportion of notifications about being tagged.



People with problematic use receive a greater proportion of notifications about friend request confirmations and a smaller proportion of notifications about being tagged. Other kinds of notifications (e.g., about birthdays) are pushed in similar proportions between the two kinds of people.

Tagging. The smaller proportion of notifications about being tagged is surprising. People with problematic use are highly engaged, so you'd expect them to both tag and be tagged in more content. Surprisingly, they don't tag friends at higher levels (after accounting for age, gender, friend count, and tenure). The story of tags *received* is more complicated: They are tagged in more comments, but are not tagged in more content overall.

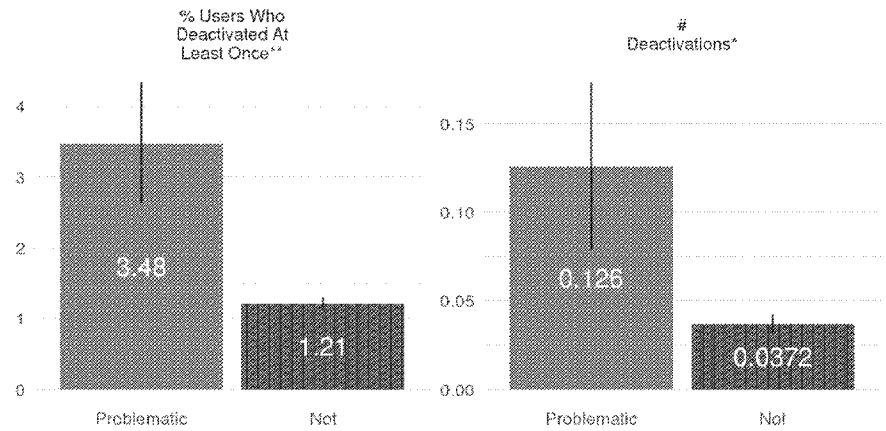
Tagging is one of the strongest indicators of relationship maintenance on Facebook; it typically means that two people spent time together in the same space offline (photo tags), or that one friend was reminded of another friend by a piece of content. When you tag a friend, you single them out, which is associated with increases in well-being by the tagger and taggee. People experiencing problematic use are not doing this kind of relationship maintenance more despite being more engaged on the site. And they're tagged by their friends in more comments, which may serve different relationship goals: comments may be more divisive or increase the pressure to respond to an ongoing discussion.

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Deactivation

People who feel like they have a problem are more likely to have temporarily deactivated their account in the past (3.5% vs. 1.2%). Deactivation is commonly suggested as a way to "take a break" from Facebook. These temporary deactivators may be looking for better controls for limiting their Facebook access. Deactivations were no more likely among the friends of people experiencing problematic use, suggesting that feelings of problematic use aren't related to "deactivation contagion" campaigns. There were no significant differences in deactivation reasons (e.g., getting too many notifications or spending too much time).



People with problematic use are more likely to have temporarily deactivated their accounts in the past.

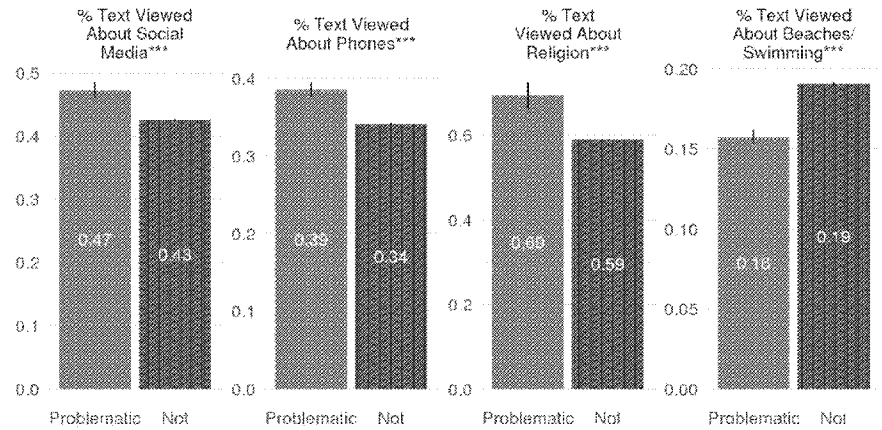
What they're reading and writing

We analyzed the text of the posts, comments, and photo captions they viewed and wrote using a tool called Empath, which counts how often words from a set of dictionaries appear in post text. We did this automatically in Presto; none of the researchers read any of the post text.

People who feel like they have a problem see a greater proportion of posts and comments about social media and phones (terms like "*facebook, instagram, follow, viral*" and "*cell, text, mobile*" respectively). They also see a greater proportion of posts about Christianity (terms like "*biblical, worship, pray, heavenly*"). They see a smaller proportion of posts about water sports like "*beach, resort, swim, cruise, underwater*" (which we assume is a proxy for vacation posts). As in all the previous comparisons, these differences are significant after accounting for age, gender, friend count, and tenure on Facebook.

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People with problematic use see a greater proportion of posts about social media, phones, and Christianity. They see a smaller proportion of posts about water sports. (See text below for an interpretation of these findings.)

What does this mean? These data suggest that people who read more about social media are more likely to feel out of control about their own use of social media. The causal direction isn't known: It's possible that problematic use may be more common in cases where technology plays a larger role in a person's life. Or, this could this be due to exposure to media narratives about social media being harmful, or simply that posts about social media tend to be spammy (e.g., "follow this viral campaign.") The data suggest it's more likely the media narrative or spammy posts, since people experiencing problematic use are no more likely to write about tech themselves (suggesting that they're not necessarily "in tech" but do see more posts about it). Similarly, people experiencing problematic use are no more likely to write about religion, just to read about religion. More research is warranted to understand whether exposure to religious and social media posts affects readers negatively, or if the relationship between these posts and problematic use simply reflect underlying differences in interests between people. Contrary to the idea that reading about other people's vacations elicits negative social comparison, we see that people who read more about beach vacations are less likely to feel like their use of Facebook is problematic.

What they're writing. What people **wrote** had little relationship to feelings of problematic use. With a few exceptions, there were no differences between groups in the topics that people posted about on Facebook. One difference was business language (terms like "office," "trade," or "manager", not shown); people experiencing problematic use talked more about business. As we note later, they were no more likely to use Facebook for business through a page or ad account, so this language may reflect their professions more generally. They were also more likely to reshare content about sleep ("*awake, asleep, sleepy*"), which is unsurprising given that sleep problems are one of the indicators of problematic use.

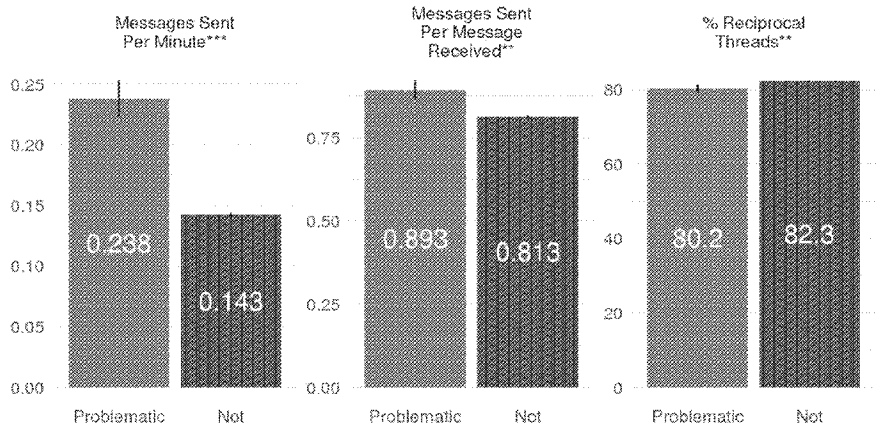
Messages

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People who feel like they have a problem send far more messages per minute (0.24 vs. 0.14), and have a higher ratio of messages sent to messages received (0.89 vs. 0.81). Though they also receive more messages per minute, this is due to demographics (age, gender, friend count, and tenure). Previous work has shown that synchronous communication (e.g., instant messaging) correlates with compulsive Internet use, while asynchronous (e.g., email) does not.

Their communication with others is also less likely to be reciprocal (i.e., when both parties sent at least one message to each other). Feeling rejected, or simply not having message partners online at the same time to respond, may contribute to FOMO or lack of control. In Elena and Bethany's qualitative work on loneliness, a lack of responses can be problematic, especially when the sender sees that other people are online or have read their message. Those cues could drive more checking or follow up messaging for those people who have difficulty with their use.



People with problematic use send more messages per minute, and have a higher ratio of messages sent to messages received. Their communication with others is also less likely to be reciprocal.

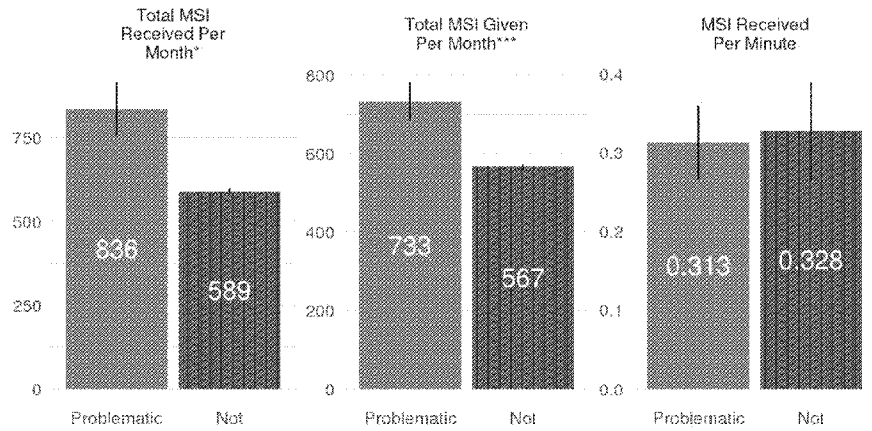
Meaningful social interactions, well-being, and time spent

One of our top metrics as a company is "MSI" or "meaningful social interactions," a metric that weighs active interactions with friends more highly than passive consumption (e.g., reading feed) or interactions with strangers, based on our past research on well-being.

People who report problematic use spend a lot more time on Facebook, so it's not surprising that they generate and receive a lot more MSI. However, if you normalize by the amount of time they spend on Facebook, they don't experience more or less MSI "per minute."

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People who report problematic use generate and receive more MSI. This is unsurprising given that they spend a lot more time on Facebook.

MSI is a behavioral measure. What about survey measures?

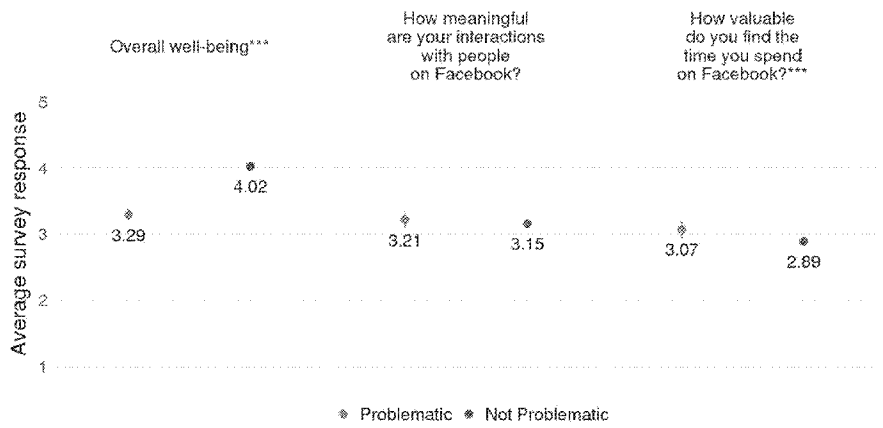
Survey measures of meaningfulness: People who experience problematic use are no different in how they respond to survey measures about meaningful interactions — they find their interactions as meaningful (but no more so) than people who don't experience problematic use (see plot below).

Survey measures of well-being: However, people with problematic use have much lower well-being overall (the average to their responses to survey questions about support, loneliness, happiness, and negative affect). This is unsurprising, given that problematic use is defined as experiencing significant issues with sleep, relationships, or work, which should reduce overall well-being, but reconfirms the importance of understanding and acting on problematic use in our mission to ensure that Facebook doesn't harm well-being.

Survey measures of valuable time: Notably, people who experience problematic use say that the time they spend on Facebook is *more* valuable, compared to people who don't report problematic use. One hypothesis is cognitive dissonance: a person feels the need to justify the extra time they spend on Facebook by thinking that it's more valuable. (But in that case, you'd expect them to report more meaningful interactions, too.) Alternately, problematic use has both good and bad aspects to it — a person feels that they get a lot of value from Facebook, but may feel overly reliant on it or out of control.

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People who report problematic use have much lower well-being. They are no different in how meaningful they find their interactions on Facebook. They find their time spent on Facebook more valuable.

Things we expected to see but didn't find

- **Interacting less with close friends.** We thought that people might experience problematic use if their friend networks were less supportive, or if they spent a greater proportion of their time interacting with lower-ranked friends. They did have about 85 more friends (median 383 vs. 298). However, we saw no evidence that network density, interactions with close friends, or the fraction of time spent interacting with closer friends were related to problematic use.
- **Negative emotion in text.** We expected that positive and negative emotion in the text that a person consumes in feed, as well as the text that a person writes, to be strongly correlated with feelings of problematic use. If you're constantly reading about the woes of the world, it might affect your life more generally. However, we didn't find evidence of a relationship between problematic use and reading or writing more positive/negative emotion.
- **Watching video.** We thought that people might feel out of control due to serially watching videos, but we didn't see differences in the percent of time spent watching videos.
- **Using Facebook for business.** Some heavy users of Facebook may do so because they run a business on the site. We didn't see any strong connections between feelings of problematic use and being a page admin, or having an ad account. However, people experiencing problematic use were more likely to use business terms in their posts (e.g., "office," "trade," or "manager").

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- **Differences in session length.** We know that people experiencing problematic use spend more time on Facebook, and have more sessions. We expected to find that overall, they'd have shorter sessions (since they're more frequent) but we found no statistical difference in the session length after controlling for age, gender, friend count, and tenure. Sessions were marginally longer on average, but did not meet our conservative statistical significance criteria to consider them significantly different.

- **Differences in deactivation reasons.** When you deactivate your account, you have the option to tell Facebook why (e.g., concerns about privacy). We expected that people who felt out of control about the time they spend on the site would be more likely to choose the "I spend too much time" or "I get too many notifications" reasons, but they weren't.

Conclusion

While spending more time on Facebook does correlate with greater perceptions of problematic use, what's more important is *how often* people access Facebook, especially at night, and when Facebook creates pressure to respond right away. People reporting problematic use are more likely to check Facebook after receiving a notification, and also spend more time in Messenger. Though we typically think of messaging as an "active" interaction that's good for well-being, there's more to it: Elena describes this as the difference between "active by choice" and "active by pressure or expectation." When you feel pressure to respond quickly it may lead to feeling out of control even if it's a meaningful interaction; conversely, if you send messages and don't get a quick response, it can lead to feeling left out.

People who feel out of control are more likely to temporarily deactivate their accounts, suggesting we should offer more granular ways to give people control over how they spend their time. The current product work on "Do Not Disturb" (to silence notifications) and to visualize time spent are good steps in that direction.

That said, our results also indicate that being more aware of technology means also being more aware of (and sensitive to) its potential failings. There are a few possible interpretations: (1) That people more immersed in tech may be more reliant on it or affected in problematic ways by it, (2) posts about tech are especially spammy, or (3) people who read about tech may be more influenced by the media narrative that technology is "bad for you." We need more research to understand how perceptions about tech's influence on people generally shapes individuals' perceptions of how tech affects them personally.

There are lots of areas needing additional research:

- **Facebook vs. smartphones:** We focused on problematic Facebook use, but these results likely generalize to most forms of smartphone use (feeling pressure to respond to messages, needing to check for new content frequently). We want to take responsibility for how Facebook contributes to feeling out of control but should also recognize that Facebook is part of a larger tech ecosystem. Apple and Google are also developing ways

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to silence notifications and visualize time spent, and we may all need to help shape societal expectations about response times.

- **Profile hopping:** People reporting problematic use spend a greater proportion of their time hopping between profiles. Is it to find more content because they've run out of novel inventory in their News Feeds, social comparison (wanting to see how they "measure up" to other people), or something else?
- **Teens and FOMO:** FOMO was highest among teens. Are there special considerations for teens to ensure that FOMO doesn't lead to problems with sleep, relationships, or school?
- **International research:** This research focused on the U.S. because much of the press narrative about the effects of technology comes from western countries. However, we need to understand cultural differences in perceptions of problematic use as well as growth issues as people in emerging markets start spending more time on Facebook.
- **Negative experiences:** Are they more likely to see spam? More likely to experience polarization? More likely to see sensationalist content? More likely to interact with strangers?
- **Correlation vs. causation:** These results are all correlational; we need more research to unpack the causal direction. For example, people with problematic use spend a greater proportion of their time online late at night. Are they bored? Lonely? They report that Facebook causes problems with sleep; does lack of sleep further add to feelings of stress or pressure to keep up during the day?

For more analysis and code, see [4].

We'd like to thank Lada [redacted], Elena Davis, Bethany [redacted], Alex Dow, David Ginsberg, Crystine [redacted], Jennifer Guadagno, Eden [redacted], and Lauren [redacted] for their feedback and suggestions. The cover photo was by Isabela [redacted] (Unsplash).

Additional notes

[1] Currently, only disordered substance use and gambling behavior are classified as "addiction" by the Diagnostic and Statistical Manual of Mental Disorders. Facebook does not affect the brain in the same way as gambling or substance use. However, as we note above, even if something is not clinically addictive, activities like shopping, sex, and Facebook use, when repetitive and excessive, may cause problems for people. For example, the World Health Organization recently added video games as potentially addictive.

[2] To account for multiple comparisons, we only report differences significant at the $p < 0.01$ level in a regression controlling for age, gender, tenure, friend count. All plots show the mean values for each group, without accounting for these control variables. Survey respondents tend to be more engaged than non-respondents. Where possible we weight for non-response bias (e.g., in our

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estimate of 3.1% of Facebook users experiencing problematic use). The engagement differences between groups reported in the note (e.g., how many hours per day they use Facebook) have not been reweighted, so the "non-problematic use group" may still have higher engagement statistics than our averages in the U.S. *** $p < 0.01$ **** $p < 0.001$*

[3] A notification "view through" is when a person uses the app within an hour of receiving a notification. Because this could just be a sign of greater engagement, we ran an additional regression here controlling for total time spent (in addition to age, gender, tenure, and friend count) and found that the fraction of notifications leading to a "view through" was still significantly greater among people reporting problematic use ($p=0.008$).

[4] Our dataswarm pipelines and R code are available. You can also find additional plots and regressions in these analysis notebooks. A table with comparisons between the two groups for more than 600 behaviors is available, as well as comparisons of text viewed / written.

91 23 comments 18 shares

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Nils [redacted]
Cc **Gene** [redacted] re: Will's internship project
5y Like Reply 2

Moira Burke
Will's note was one of the things that inspired this project!
5y Like Reply 3

Gene [redacted]
Linking it here for posterity : https://fb.facebook.com/.../have-we.../1766984813316275/ . Will is coming back as a full time DS this coming Monday and will be able to speak to it himself
5y Like Reply 2

Gene [redacted]
Also **Ime Archibong** - want to make sure you see this
5y Like Reply 2

Ime [redacted]
Great to see momentum on this work — and one of the great things about Facebook is the impact you can have as a summer intern.
5y Like Reply 2

Write a reply...

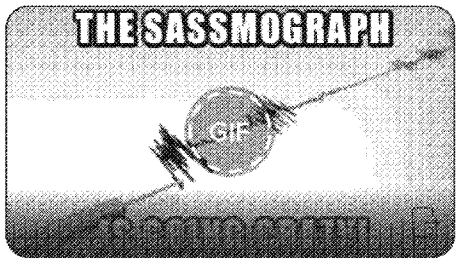
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Laure[redacted]

DJ Lick problematic Facebook use associated with MANY more sessions per day. Nice and comfy up here on my soapbox...

5y Like Reply 2

DJ[redacted]



5y Like Reply

Gene[redacted]

Charles let's make sure to keep some of these points in mind as we create sessions segments - particularly "People who feel like they have a problem ... spend about 19 minutes more per day on Facebook, have about 15 more sessions per day, and spend a greater proportion of their sessions late at night" . One of the worries with using sessions as a north star is that we want to be extra careful not to game them by creating bad experiences for vulnerable populations.

5y Like Reply 4

Moira Burke

Can you share more about using sessions as a north star? (Or email Justin and me.) I'd love to know more about your goals and we might be able to help think about the right way to frame them given these findings.

5y Like Reply

DJ[redacted]

cc: Alex[redacted], Mona[redacted], Anthea[redacted] Greg[redacted], Steve[redacted], Eryn[redacted]. Here are some very interesting and relevant findings for our ongoing discussion about engagement. They conclude that we should "help people consolidate their use of Facebook into fewer sessions" because problematic use is more strongly tied to number of sessions that session length or overall time spent.

5y Like Reply 4

Greg[redacted]

Might be a win-win there given our initial analysis suggests overall time spent seems to correlate more strongly and consistently with attitudes about news on FB and news-related behaviors.

5y Like Reply

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Kenzie [redacted]
Cc **Courtney** re tagging insights

5y Like **Reply**

Kofi [redacted]
Andrew [redacted] re: IRL

5y Like **Reply**

Alex [redacted]
Really interesting!

re: "We didn't find evidence of a relationship between problematic use and reading or writing more positive/negative emotion," looking back on the emotional contagion study, how do you think this new finding meshes with what we knew before?

5y Like **Reply**

Justin Cheng
Great question! Here are some thoughts: (1) The effects for positive/negative affect are likely small (as was the case in the contagion study). Given our much smaller sample size (N=20k vs. N=700k), we might not have sufficient power to identify differences, if they do exist. (2) It's not clear whether problematic use correlates with seeing more negative or more positive content. On one hand, being exposed to negative affect can make you feel worse (i.e., what the contagion study found). But because of social comparison, seeing more positive content about how great your friends' lives are (or being compelled to post positive content) can also lead to feelings of problematic use.

5y Like **Reply** 2

Lada [redacted]
I wonder if there is another explanation for the messenger use. The theme through these findings is that people are seeking social connection: looking at more profiles, friending more, initiating more messenger chats, etc. I didn't get the sense from the write-up that they somehow feel time pressure to respond to messages (or was this asked in the survey?). It is possible that Facebook use is problematic for people who have less meaningful interaction offline than they like (they just went through a breakup or moved to a new city). They are turning to Facebook, and seeking connections of different kinds, but perhaps because this doesn't always lead to deep engagement, they leave and return frequently, respond to notifications and checking if something is going on.

5y Like **Reply** 2

Justin Cheng

Some initial followup:

People who report problematic use but have no MLEs are still more likely to send more messages per minute and have a higher ratio of messages sent to messages received, and hop between profiles. However, there are no longer any significant differences in the % of reciprocal threads. Nonetheless, having an MLE predicts sending more messages per minute, as well as having a lower % of reciprocal threads, and profile hopping.

In other words, MLEs explain some of the differences that we observe, but problematic use, even in the absence of MLEs, still results in differences in activity. However, people who feel like they have a problem could be looking for social connections, and their problematic use could be a result of what's happening in other aspects of their lives.

5y Like **Reply** 2

Andreana [redacted]

Super interesting! Around perceived value, is it possible that their time on FB is seen as more valuable because they have less frequent live social interactions and/or less social support in person? The gender differences you reported and the stressful life events inventoried reminded me of research on US gender differences in response to break-ups (e.g., https://www.psychologytoday.com/.../why-breakups-are...). So I wonder if problematic users get value because it serves as a primary source of social connection/support, even if in absolute terms the interactions are not more meaningful than for non-problematic users?



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5y Like **Reply** 2

Sean Ryan

Excellent summary here! I don't know if you covered this too, but was there any correlation between problematic FB use and standard psychological indices like neuroticism and extroversion? I seemed to remember that coming up in the literature--might have even been some of your past research. It's never good to blame the victims of course, but my guess would be that there is a connection.

5y Like **Reply** 3

Justin Cheng

There's good reason to believe that's the case, and it does come up a lot in the literature. We did not survey about personality traits, but I think there's some evidence in the data suggesting that personality accounts for some of the differences that we observe, for example, between extraversion and sending more messages). Previous literature also mentions a link with narcissism, so we also tested whether people who report problematic use were more likely to use "I" words (not reported in the note). It turns out that they do!

5y Like **Reply**

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Sean Ryan

Justin Cheng fascinating! Thanks for the follow-up. I was thinking of adding a Big 5 personality profiler to some of the Intent work that I'm doing. I think I will now...

5y Like **Reply**

Franz [redacted]

Really interesting! I wonder how to interpret that 'Problematic' people receive and give more MSI in the context of the broader belief that more MSI is positively associated with well-being. I assume we don't have longitudinal data on those users -- but would be interesting to see if what triggers people to become 'Problematic' (or move from 'Problematic' to 'Normal') and how their MSI/day if affected.

5y Like **Reply**

Jason [redacted]

This is great! Has there been much more work on this since this note came out? Would be very interested in a 2020/2021 update.

3y Like **Reply** 2

Write a comment...

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