

AMENDED Exhibit 116

PLAINTIFFS' OMNIBUS OPPOSITION TO DEFENDANTS' MOTIONS FOR SUMMARY JUDGMENT

Case No.: 4:22-md-03047-YGR

MDL No. 3047

In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation



Late Night Use[☾]

IG Mental Well-being, Problematic Use • Strategy and Design

[A/C Priv] • Communities Review • Aug 4 2022

Objectives

Goals

1. Align on definition and strategy for Problematic Use
2. Align on interventions for Late Night Use, specifically Quiet mode

Non goals

1. Measurement Feedback
2. Frequent Use

Executive summary

1. **Teens Problematic Use (PU) is the Mental Well-being team's priority based on IG and CWB leadership guidance**

██████ of WAU IG teens (over one week) exhibit behaviors associated with problematic use overall (ref)

PU and self-perceived PU is a **driver of churn** ██████ of resurrected users select "Too much time on IG" as one of the main reasons (#3) for leaving the app

1. **Our first focus area for H2 is late night use (a PU sub-behavior)**

IG **lags on teens late-night investments** compared to other apps – we can change the tide and lead in this space if addressed now

1. **This review focuses on the overall strategy for PU, and specific H2 interventions to address teens late-night use**

Quiet mode: A controls-based bundle that helps teens manage their relationship with IG at night – fewer engagement triggers to pull them into the app, and a less stimulating experience when browsing the app

Problematic Use

Context and Strategy

Framing

Context

IG plays a key role in young people's mental well-being that can affect their usage of the app—both if and how they use it. Our team helps IG acknowledge, understand, and proactively address its role in teen mental well-being.

Vision & Approach

When we've succeeded, IG continues to be a safe space for teens to actively engage with their community and feel good about the time they spend on the app.

Reduce behaviors of **Problematic Use** and **increase sense of control** by landing a steady drumbeat of expert-backed visible products that support teen well-being.

Success statement overall is "People have the tools that they need and are empowered to control their time and experiences on our platforms"

What is PU and why we should care?

Problematic Use

- Occurs when people feel they lack control over their usage of technology and this leads to negative life impact (e.g., on sleep, productivity, parenting)

PU x Meta

- 1 of 4 priority areas for [Meta well-being strategy](#) in 2022
- Key experts and policy stakeholders advocate for us to focus more on it, we are not yet on track for long-term success

PU x Instagram

- [REDACTED] of IG teens WAU over one week exhibit behaviors that may reflect [problematic use](#)
- PU is among the [top WB issues](#) users report experiencing, and a driver of [churn](#)
- We already shipped Take a Break (for Long Sessions) and Topic Nudge (for Passive Use); in H2 we plan to prioritize Late Night Use Interventions and understand Frequent Use in detail

Success Definition

H2 ¹/₂ Goals

1. Reduce behaviors associated with problematic use by shipping incremental PU interventions - test 3 and launch at least 1 with an external drumbeat narrative
2. Set baseline to goal on adoption & behavior reduction next half

2023+ Commitment

1. Reduce teen experiences of PU by X%
2. Reduce teen PU proxy behaviors by Y%
3. Increase adoption of PU interventions from X% to Y% of global teen WAU

Slide 1

- 1 Can you help me understand the difference between 1 and 2?
[REDACTED]; 8/17/2022 3:06:44 AM
- 1 @ [REDACTED]@fb.com sure - #1 is the north star, which will be
measured via survey whereas #2 is a reduction in proxy behaviors
based on logged data (to be used as a proxy for #1)
[REDACTED] 8/17/2022 3:06:44 AM
- 1 have we defined metrics and countermetrics we'll track this half?
[REDACTED]; 8/18/2022 4:45:43 AM
- 2 @ [REDACTED]@fb.com is working on the detailed success criteria but yes
we will track adoption (enabling QM) with CTR from the upsell and
organic, retention (keeping QM enabled) and counter metrics will be
IG critical metrics and surface specific guardrails for notifs, IGD,
active presence etc.
[REDACTED] 8/18/2022 4:45:43 AM

Late Night Strategy

Why Late Night?

In [collaboration](#) with CWB, we identified 4 critical PU sub-areas related to potentially problematic on platform behaviors.

Of these 4, **late night use** is the team's top priority for H2 2022 as negative impact of poor sleep is well-documented (at) and this is where we have coverage gaps for ~8% of teens

Problematic Use				
Sub-area	Teen prevalence	Problem severity	Instagram coverage	TikTok coverage
Late night use Late night usage/during times that are likely displacing sleep for most people	█ of teens WAU █ exhibit one or more late-night behaviors (12am-4am)	Medium	Not supported	Time-spent awareness videos Auto-silenced notifications after 9pm Night insights
Frequent use Habitual and repeated checking of app, notifications, direct, quick switching between surfaces	Understand work in progress	Medium	Not supported	App-opens insights
Long periods of use Spend more time in the app than intended, lose track of time, low awareness of time spent and long sessions	█ of teens WAU Have at least <u>one 20min+ session per week</u>	High	Daily usage limits Take a break (upsell and tool) Scheduled breaks (Parents only)	Take a break (tool only, no upsell)
Passive use Sessions with low/no engagement, long scrolling	█ of teens WAU Scrolls with <u>15+ impressions</u> on the same topic	Medium	Alternative topic nudge	Usage-awareness videos

Considerations

- Severity: Based on an external literature review, is there causal empirical evidence that this behavior is associated with a negative outcome (e.g., depression)?
- Product coverage + parity: Based on product audits (1, 2), are there products that exist today that aim to address the sub-area of PU and is there parity across IG<>FB?
- Competitors: Based on competitor audits (1, 2), is IG at par with peer companies?
- Likelihood to impact external narrative: Based on the last three months of comms reports, how often is the sub-area mentioned in the external narrative about Meta and problematic use?

Sizing teens late -night use

Teens late night usage (12am-4am*) over one week

- [REDACTED] WAU teens have at least [REDACTED] late night session
- [REDACTED] of WAU teens have [REDACTED] or more late sessions every night
- [REDACTED] are the [ECI countries](#) with the highest % of teens that exhibit PU behaviors

Sizing of problematic [behavioral proxies](#) (p95) WAU

- [REDACTED] WAU teens exhibit at least [REDACTED] late night behavior (12am - 4am) associated with problematic use. See proxies below - daily average over one week
- [REDACTED] WAU teens spend 18 min+ on IG
- [REDACTED] WAU teens have 5 sessions
- [REDACTED] WAU teens switch between surfaces 18+ times in a session

[12am - 4am](#) used for sizing only*

Late Night PU metrics identified as [behavioral proxies](#) (thresholds derived from p95)

This is a large proportion of teens, however reducing late night time spent for teens is seen as non-controversial net positive, therefore we should look at different thresholds to understand the overall sizing of teens with any kind of time spent late at night.

Slide 1

2 should we look at a longer window given that teens need 9+ hours of sleep per night?

██████████; 8/18/2022 4:38:23 AM

3 ██████@fb.com We started with a conservative window purely to get a read on sizing so the #s here are merely a starting point. For the actual in product default hours for teens, we are planning 10pm - 7 am based on research done by the Youth Platform team.

██████████; 8/18/2022 4:38:23 AM

Gaps & Opportunities

Based on teens and young adults [research](#) across US & IN

Teens feel pressure to be available at all times

- Teens feel they are expected to respond to messages [quickly](#) and are concerned about offending friends, hurting relationships, and/or missing out on opportunities to connect if they do not

Social norms are powerful levers

- Teens want to be able to close the app without feeling guilty; auto-replies and statuses enable them to set boundaries with friends and encourage others to do the same

Teens use IG to wind down at night

- Teens are looking for ways to minimize distractions as part of their wind-down routine while using Instagram at night

OS and IG existing tools are not sufficient

- IG supervision and parental controls are blocking experiences that don't empower teens to build habits over time
- OS tools don't help foster norms with the community on IG

Guiding Principles

Principles

1. Empower through controls

We build solutions that create contextual awareness for teens and give them tools to take action.

1. Ensure intentional use

Preventing late night use altogether isn't a realistic or viable goal. Instead, we want to increase intentionality and feelings of control for teens.

1. Foster healthy norms

Enable people to set norms around usage habits and influence their communities.

1. Support strong external narrative

Prioritize visible products that serve as the strongest proof-points externally for press, regulators and guardians.

Add'l internal/cross-org consideration

1. Empower teens vs escalate to parents

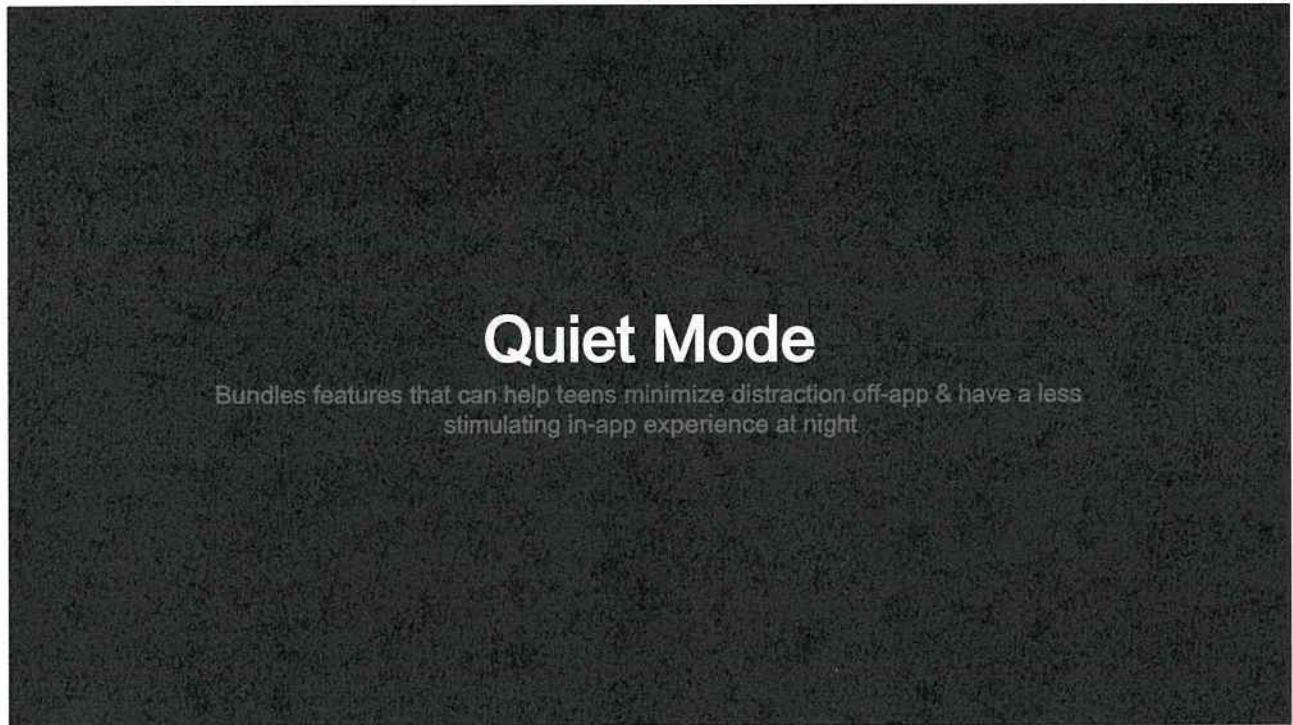
Encourage teens to form healthy habits and inform Parental Controls so guardians can protect the most vulnerable cohorts.

Features consideration framework

More features explored [here](#)

		Control	Intentional Use	Norm Setting	External Narrative
1	Notification muting and app counter suppression at night	Green	Red	Green	Green
2	Contextual awareness (late use awareness nudges, targeted reels, etc)	Red	Green	Green	Yellow
3	Activity Indicator (away message, status, etc)	Green	Green	Green	Green
4*	Automatic app cues (dark mode, audio off, screen dimming, etc)	Yellow	Green	Green	Green
5	Insights-driven awareness (dashboards, app usage insights, etc)	Red	Yellow	Yellow	Red

*4 includes features that have strong potential to address the problem (dark mode, audio off, etc) but it was not prioritized for the MVP because of on-going Panavision dependencies.



Why Quiet Mode to address PU?

Notifications are a key driver of late-night app opens/use for teen WAU with PU behaviors [REDACTED]:

- [REDACTED] of these teens start a session from a notification, or an app badge, between 12am-4am
- [REDACTED] of these teens start a session from a notification that was sent and clicked between 12am and 4am

Presence indicators drive messaging activity

- Active indicator (green dot) [REDACTED] and [REDACTED] message sends for iOS and Android respectively
- "Active Now tray" [REDACTED] reciprocal conversations among teens, [REDACTED] longer sessions overall

Based on the above, we identified a two-pronged approach

- [Off-app] Reduce app opens by muting notifications during night time and experiences that might interrupt sleep
- [In-app] Reduce late night use via in-app cues & norm-setting interventions

[REDACTED]
[REDACTED]

[REDACTED] of the sessions between 12 am and 4 am are caused by [REDACTED]

See surface analysis [here](#)

Users who start a session organically have a [REDACTED]
[REDACTED]

Slide 1

2 of what? Sorry, it's hard for me to rightsize this. If [REDACTED] is out of the 100% that have problematic use, it doesn't seem like [REDACTED] are most impactful...

[REDACTED]; 8/17/2022 3:08:42 AM

4 To clarify, [REDACTED] of teens exhibit proxy PU behaviors. [REDACTED] of these open the app at night [REDACTED]

[REDACTED]; 8/17/2022 3:08:42 AM

What is Quiet Mode

A centrally designed bundle of existing and new features that can help people have a less stimulating experience and wind down at night.

Designed to specifically address late use awareness, control, norm settings and FOMO reduction.

Self experience

-  No push notification or app badge/counter
-  All tabs in dark mode
-  Status indicator in Home
-  Morning digest

Viewer experience

-  No active indicator (aka green dot)
-  Status indicator in Profile and Direct
-  Direct auto-reply in 1:1 threads

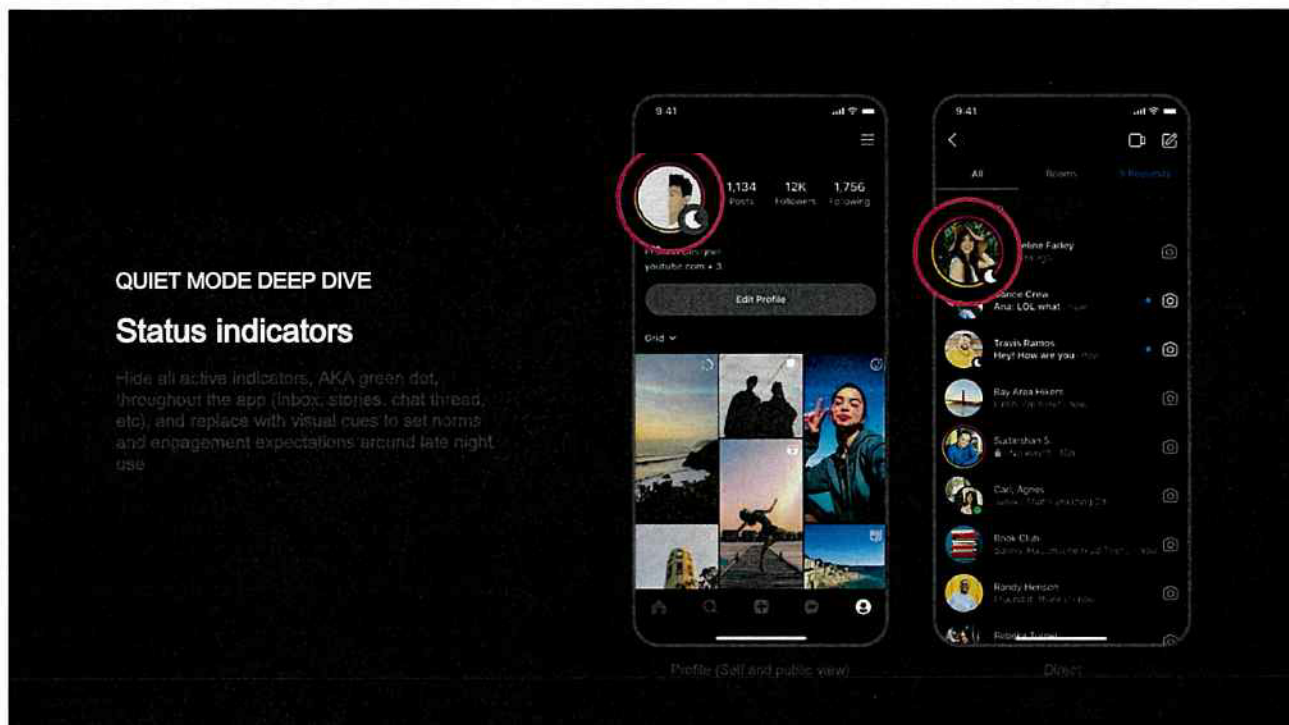
 Daily automatic start and end time

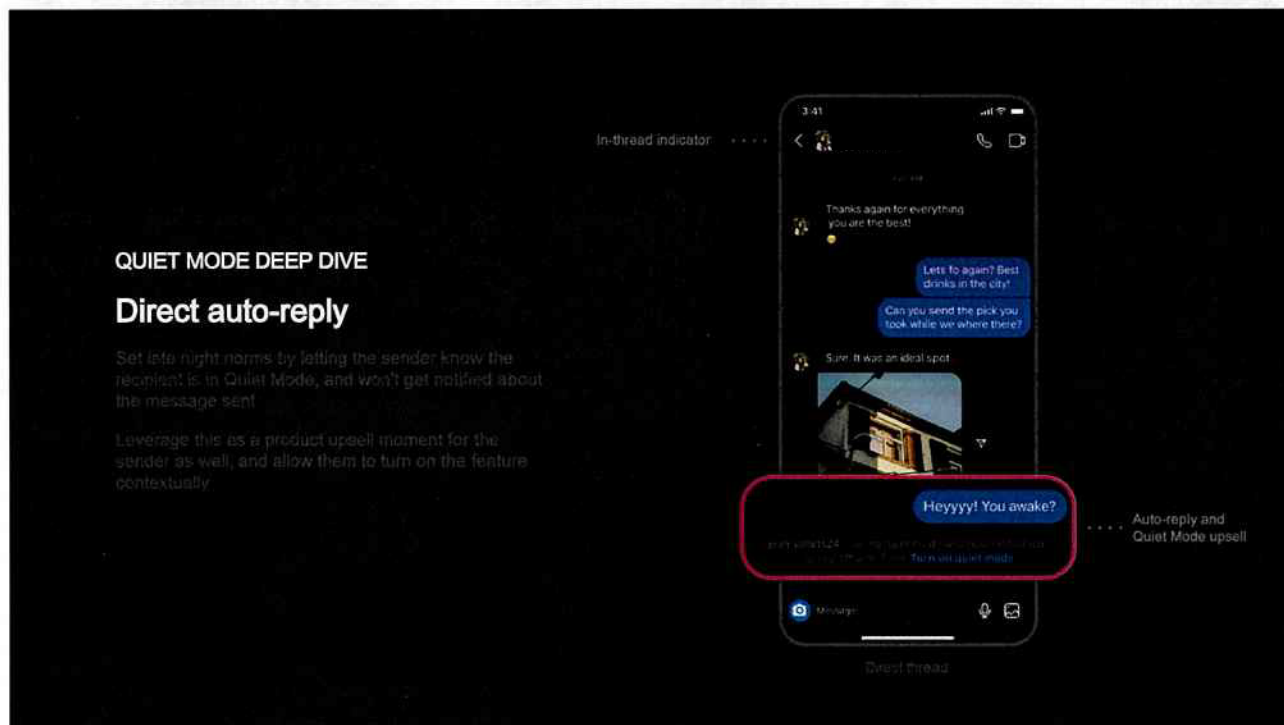
Slide 1

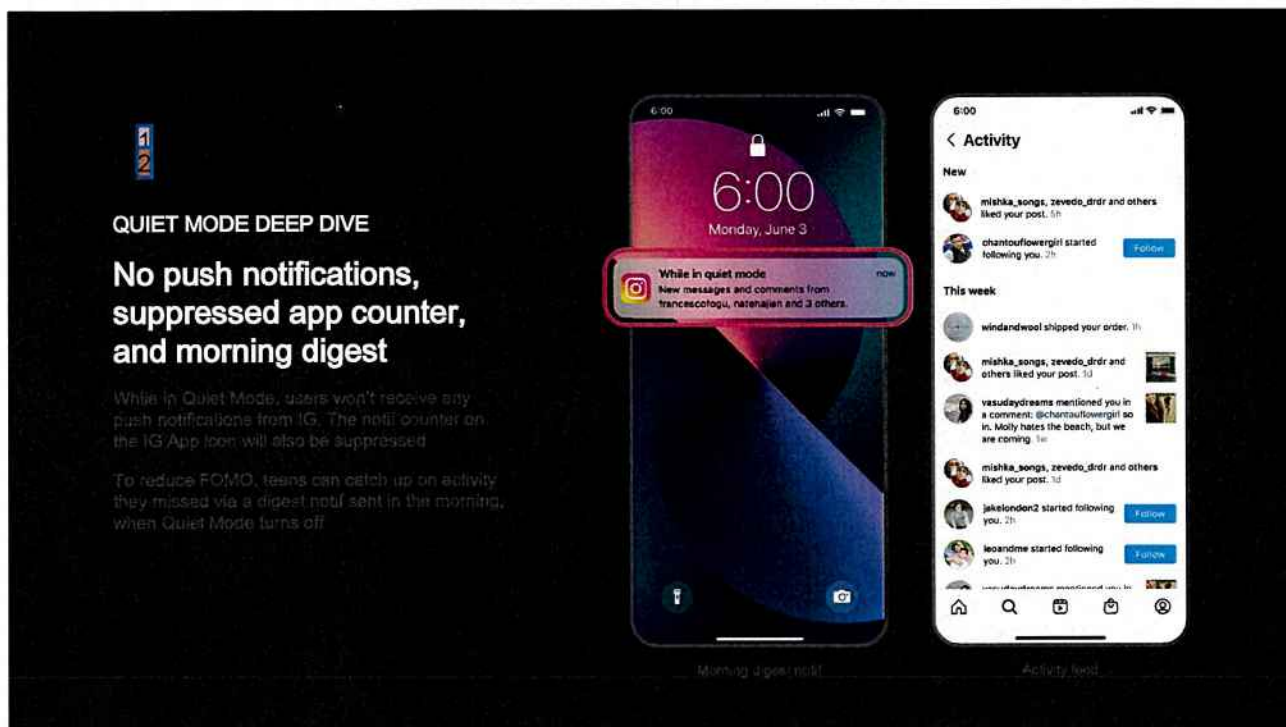
3

I love this in terms of "Fostering Healthy Norms". It places this as a subtle but overt norming reminder.

[REDACTED]; 8/4/2022 5:46:45 PM



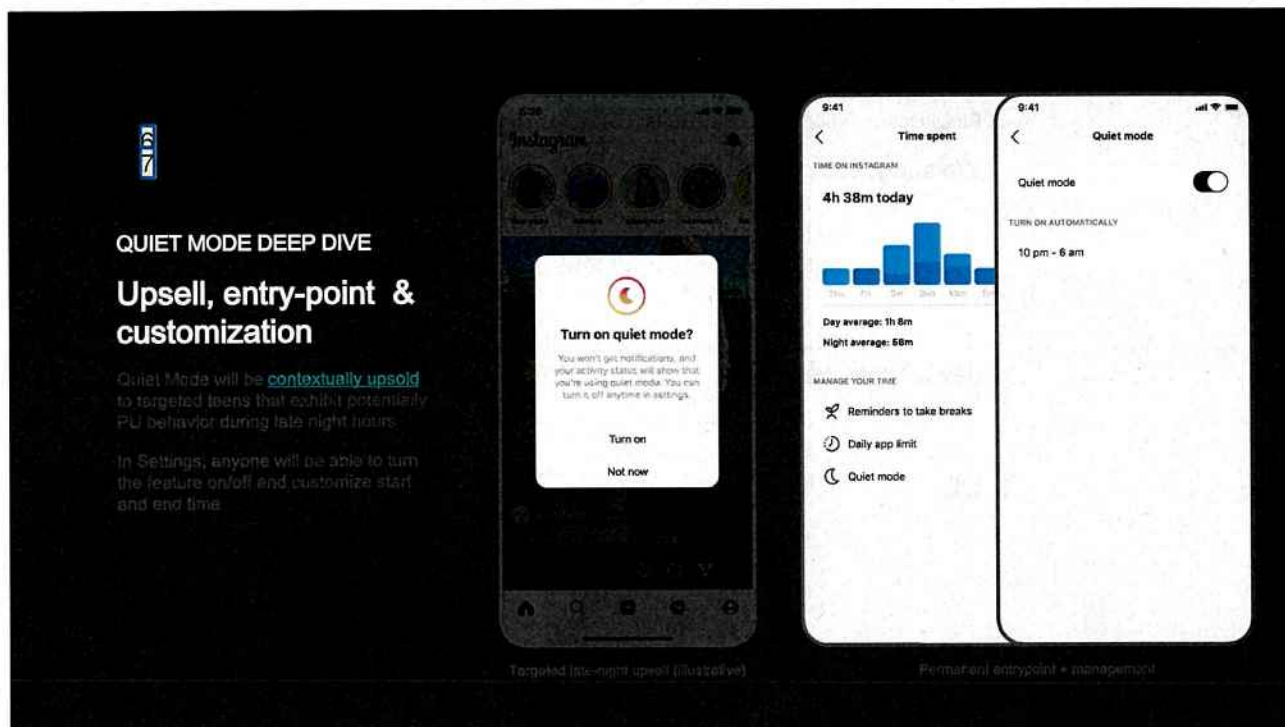




IG Amber Alerts are in feed QPs only. Users are not push notified about, even if quiet mode is off.

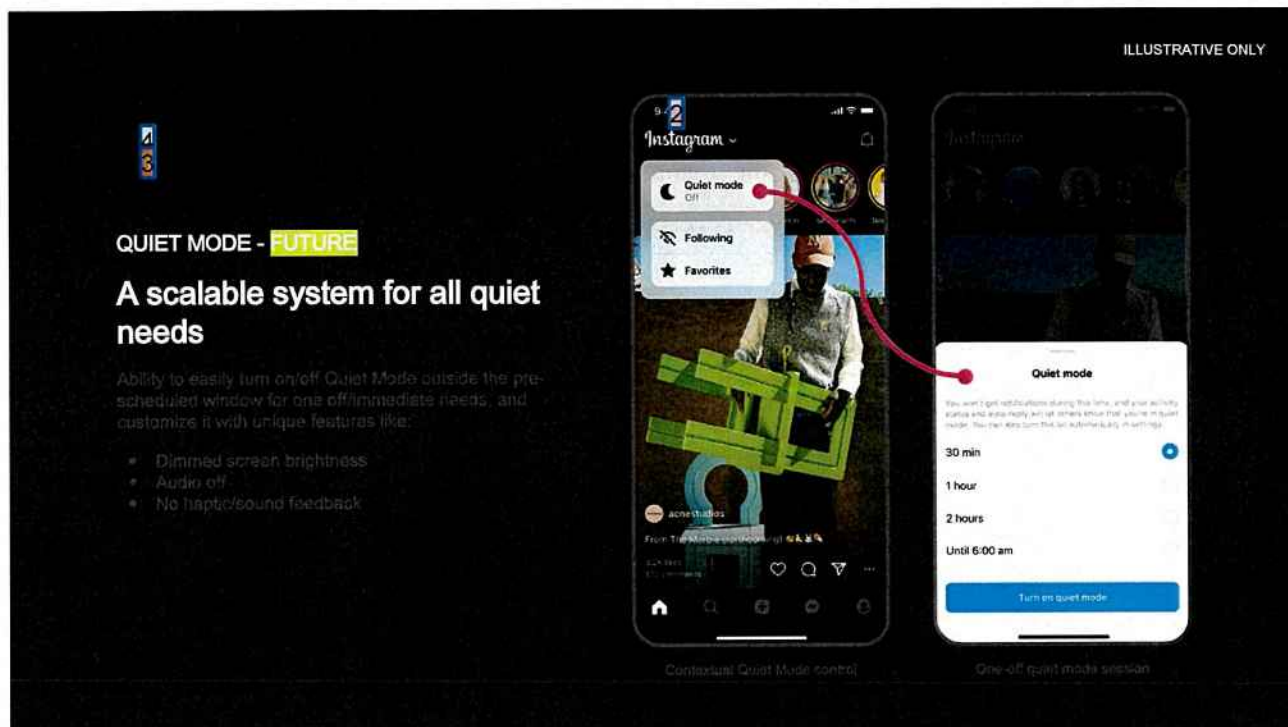
Slide 1

- 1 Love the notion of morning digest
[REDACTED] 8/4/2022 6:09:51 PM
- 1 I can see this becoming overwhelming as well. Would there be an option to switch it off and just resume normal notifications in the morning?
[REDACTED]; 8/6/2022 12:14:24 AM
- 5 [REDACTED]@fb.com can you say more on why it might be overwhelming? This would be a single digest that would land on activity feed, so similar to what you might do when you open the app. Resume normal notifs might lead to missing those from the night or getting too many in the morning ..
[REDACTED] 8/4/2022 5:12:32 PM
- 2 My thinking was that it would trigger FOMO for the following night (I missed all these notifications last night). I was alluding to skip the night notifications and go back to normal for any new notifications. However, I see your point on consolidating these in one digest so we don't miss them.
[REDACTED] 8/6/2022 12:14:24 AM



Slide 1

- 3 is quiet mode only 12-4 or can teens set it for any length of time?
[REDACTED]; 8/18/2022 4:39:39 AM
- 6 We suggest a default of 10pm - 7 am for Quiet Mode and teens can
adjust it to a time of their choosing to customize as well. We are
planning to limit the delta to 8-9 hours max to avoid unintended
ecosystem impact by muting for longer than that.
[REDACTED]; 8/18/2022 4:39:39 AM
- 1 Curious if we have thought about setting different times depending on
day of week (ie 10pm-6am M-F, 10pm-7am S-S, etc)
[REDACTED]; 8/4/2022 5:13:38 PM
- 7 [REDACTED]@fb.com
[REDACTED] 8/4/2022 5:13:38 PM



Slide 1

- 4 v cool
[REDACTED]; 8/17/2022 5:03:27 AM
- 2 Design feedback: the feature control doesn't belong in drop down that
is a filter.
[REDACTED]; 8/4/2022 6:11:15 PM
- 3 love this idea
[REDACTED]; 8/4/2022 12:34:22 AM

Discussion

DISCUSSION TOPIC #1

Alignment Check-in

Feedback needed

1. Are leads aligned with our focus on late night use?
2. Are leads aligned on "Quiet Mode" as the main H2 bet?

Considerations summary

1. Communities P0 goal: "Reduce behaviors associated with problematic use - test 3 PU interventions and launch at least one with an external drumbeat narrative"
2. We recommend Quiet Mode as a hero product for late night use intervention and propose phased test + launch with comms moment
3. Per Comms, Quiet mode addresses external concerns - often re: "addiction" in our products - from parents, policymakers and teens, especially if we default teens into them, or create strong upsells

Slide 1

- 1 The team outlined a goal of 3 tests. Should this be considered as 1 of 3 tests? What are other tests that the team planning on running?
[REDACTED]; 8/4/2022 6:25:34 PM
- 8 We wanted to flag this as well - given Quiet Mode is large in scope, we are planning two tests for it -
1. Muting notifs, suppressing active indicator, morning digests
 2. IGD auto reply and Quiet Mode indicators.
- Are leads aligned that this could be considered as two separate tests? We are finalizing a third idea in the next few weeks.
- cC: @ [REDACTED]@fb.com
[REDACTED]; 8/4/2022 5:14:52 PM
- 4 Does the "less stimulating experience" (auto-mute, screen brightness) fit into either 1 or 2 above?
[REDACTED]; 8/4/2022 5:56:13 PM
- 9 [REDACTED] attitudinal questions so we have both behavior signal and motivational signal
[REDACTED]; 8/4/2022 6:22:36 PM
- 10 Can indicators test be separate?
1. notif + digest
 2. Indicator test only
 3. IGD test (start plannin for this now)
- [REDACTED]; 8/4/2022 6:24:01 PM
- 11 [REDACTED] Daisy had a lot of variants but that created thrash and work later to unwind. Risk if we have too many variants - especially opt in. Suggestion to test the full mode first, see if there are ecosystem regressions.
[REDACTED]; 8/4/2022 6:25:34 PM
- 1 What is the settings hierarchy when considering Take-a-Break and Limits already exists? Can this be packaged and/or positioned as additive to existing settings/flow, vs creating more paths in our settings menus, or is the Time Dashboard the common entry point for PU/WB settings? Trying to think of a drumbeat destination for ALL the great work.
[REDACTED]; 8/18/2022 4:40:43 AM
- 12 [REDACTED]@fb.com Yes, Time Spent is the primary surface for all time related settings (currently also WB settings).
[REDACTED]; 8/18/2022 4:40:43 AM

DISCUSSION TOPIC #2

Overlap with OS

Feedback needed

1. Are leads aligned that Quiet Mode is sufficiently differentiated from OS "focus features", and that the two can coexist? Detailed table [here](#)

Considerations summary

1. iOS and Android offer a suite of focus features with the ability to configure notifications, contacts, and home screen.
2. IG's 'Quiet Mode' offers unique in-app experiences that help individuals, and the overall IG community, foster healthy night norms.
 - a. Key features not offered by the OS: publicly visible cues in-app like 'Night Mode On' indicators and Direct auto-reply, Morning digest. Potentially sound off/dimmed screen in the future.
 - b. Main overlapping feature with OS: Muted push notif's. Key feature required for us to control the end-to-end experience, especially for users that only adopt IG Quiet Mode and not OS ones.
3. Long term, we see opportunities to integrate with Apple's wellness API

The team has considered how this impacts our product portfolio and how to invest further in PU. We landed on some principles to help us proceed -

1. Our preference is to build products that solve a real user need and are distinct from anything OS/competitors offer
2. We may build similar products where there is a strong user need. This helps us address IG-specific problems, have more control over the solution and avoid relying on teens adopting OS features
1. We use OS features to our advantage and build on top of them to offer robust solutions (e.g. [Focus API](#))

Slide 1

- 1 There's differentiation from a feature-set/capability standpoint, but what is less clear to me is overlap of the expected usage between OS level features vs. app specific quiet mode. do we have any forecasts on this?
- I assume we dont have OS level data on usage of native features like DND/sleep mode/ etc, right?
[REDACTED] 8/4/2022 6:23:03 PM
- 2 But in general this proposed quiet mode seems like a much richer set of experiences/interventions than existing OS level controls/features , so there's definitely differentiation
[REDACTED] 8/4/2022 6:23:03 PM
- 2 Is there an OS API for us to trigger some of these in-app features (e.g. status, auto-reply) when iOS/Android users set there phones to DND/night/focus modes? Might be an interesting approach vs going completely native in V1.
[REDACTED] 9/2/2022 2:27:35 AM
- 13 [REDACTED]@fb.com can share the current state of the OS API, my understanding is its still very new.
- But we are planning to integrate with it post MVP as a way to signal that the user might want to be in Quiet Mode.
[REDACTED] 8/18/2022 4:41:26 AM
- 1 Yes there is an API on iOS where we can trigger these in response to OS focus mode, although it requires the user to first enable the trigger. You can see an overview of what's possible here: <https://fb.workplace.com/notes/733084574568400>
[REDACTED] 9/2/2022 2:27:35 AM

Teen vs parent controls

DISCUSSION TOPIC #3

Feedback needed

1. Family Center offers Blocking Hours/Scheduled Breaks to guardians only (details below). Are there any concerns with Quiet Mode and Blocking Hours coexisting?

Considerations summary

1. A scheduled break is a blocking experience that prevents the teen from accessing IG altogether. Quiet Mode is not designed to be a blocking, instead it empowers the teen to mindfully use the app at night, but with fewer distractions/stimulations as part of their wind down routine.
2. Blocking Hours is a private experience only between the teen and parent. Quiet Mode is a public experience, designed to help the community set norms around night usage and help develop healthy habits.
 - a. If blocking hours overlap with quiet mode hours, the teen account will have all the QM features (no push, no activity indicator, QM indicators on direct and profile) but they won't be able to access IG, until blocking hours expire.
 - b. In the future, we can explore giving parents visibility into this control, but continue letting the teen manage it.

TBD:

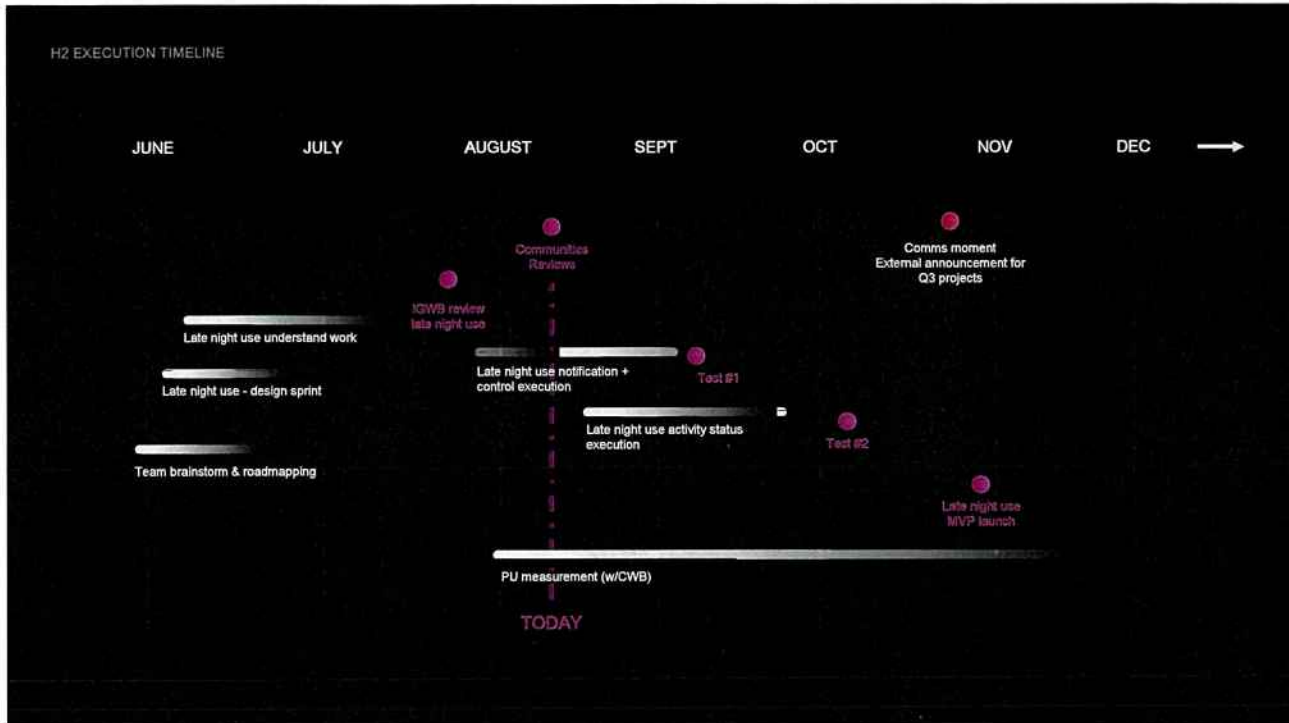
1. When teen is enabling QM after Scheduled Breaks is set up: Communicating to the teen when their parent has already set up blocking hours and clarifying they will not be able to use the app during overlapping QM.
2. Let parents know that QM has been enabled by the teen.
1. Ensure we are communicating what features are part of QM clearly to the teen.

Slide 1

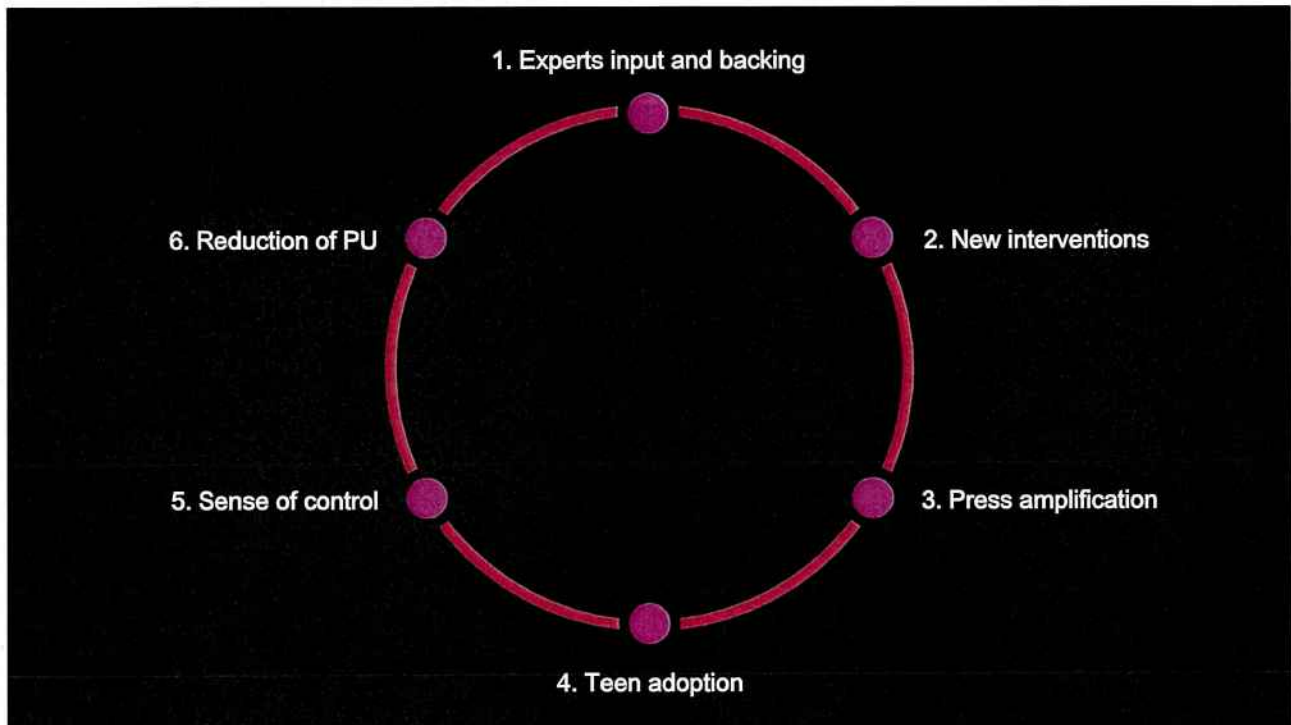
- 5 love this
[REDACTED]; 8/17/2022 5:06:48 AM
- 5 I don't see an issue, but could see teens getting confused about the difference. Do we have any messaging in mind to teens using QM when blocking hours are already in place or get implemented?
[REDACTED]; 8/18/2022 4:43:24 AM
- 6 it would be good to allow teens to choose what is communicated when both blocking and quiet mode are enabled. blocking risks appearing as punitive, with high potential for embarrassment -- can both be enabled and the moon show?
[REDACTED]; 8/17/2022 5:09:21 AM
- 14 [REDACTED]@fb.com When both modes are enabled, the teen will be blocked from using the app due to "Blocking Hours" but their friends will see Quiet Mode features like the moon sign and IGD auto reply as a way to set norms.
[REDACTED]@fb.com we are working through the messaging now for teens
[REDACTED]; 8/18/2022 4:43:24 AM

Appendix

Quiet Mode details, additional data, more Late Night concepts







Competitive Considerations

Feature	IG (Teens)	TikTok (Teens)	iOS
Daily usage limits	Yes	Yes	Yes
Take a break reminder	Upsell Tool	Tool	No
Late Night interventions	No	Awareness videos Auto-silenced notifs Night use insights	Sleep mode (opt-in)
Frequent use interventions	No	Insights	Insights Tools
Time spent insights	Total usage	Day usage Night usage	Advanced insights
Brightness/colors	Dark Mode	Dark Mode	Night shift

Rationale for existing controls targeting

- **Long Sessions:** Take a Break upsell trigger was set at 120 min, as opposed to 90 min, because it was a more conservative option that showed very similar adoption/dismissal and overall reach wasn't that much lower. [Source](#)
- **Passive Use:** For Alternative Topic Nudge we picked a chain length of 3 because it is the 95th percentile of Explore chain lengths. [Source](#)

OS offerings X IG integration

Feature	IG's Quiet Mode	iOS (Focus, DnD, Sleep)	Android (Focus, DnD, Bedtime)
Push notifs muted	Yes	Yes	Yes
App badge counter muted	Yes	Yes (opt-in only)	Yes (opt-in only)
Catch up digest	Yes (IG specific)	Yes (scheduled summary)	Yes
Dark mode	Tentative	Yes	Yes
In app active indicator suppressed	Yes	No	No
In app status/night icons	Yes	No	No
Auto reply in IGD	Yes	No	No
Daily schedule	Tentative	Yes (also supports other triggers like location)	Yes
Dim screen	Post MVP	Yes	Yes (can also set grayscale)
Audio off	Post MVP	No	No

Have in app toggle

Integrate with OS - instead of us switching it on on IG, but enable based on OS status

Framework and solutions explored

	Awareness	Control	Norm Setting	Behavioral changes	Support	External perception
	We show a bubble of what time they spend on the app and how much time they've spent on it.	We show how much time they spend on the app and how much time they've spent on it.	We show how much time they spend on the app and how much time they've spent on it.	We show how much time they spend on the app and how much time they've spent on it.	We show how much time they spend on the app and how much time they've spent on it.	We show how much time they spend on the app and how much time they've spent on it.
Quiet mode	●	●	●	●	●	●
Usage awareness bumpers	●	●	●	●	●	●
Reels + night insights combo	●	●	●	●	●	●
Notif muting at night	●	●	●	●	●	●
Screen dimming at night	●	●	●	●	●	●
Audio off at night	●	●	●	●	●	●
Curated Guides	●	●	●	●	●	●
Weekly time spent digest	●	●	●	●	●	●

User feedback on Quiet Mode

Quiet Mode performed well in early concept testing with US teens and young adults.*

Quiet Mode was the most appealing concept (of 4 tested) and was appreciated for its versatility and ability to customize one's IG experience

Participants saw value in using QM for nighttime and daytime use

Participants felt that QM MVP features would help them:

- Reduce distractions from IG when they are trying to sleep, wind down before bed, or otherwise focus on something else
- Set expectations about their availability to engage with friends
- Reduce FOMO associated with taking a break from the app

*N=10 US daily and weekly IG users who report difficulty managing late night use. Report forthcoming

Why is 12AM-4AM late night?

- Previous research which linked problematic Facebook use to late-night use, has been associated with both later bedtimes and rising times and with insomnia. Because of the association between PU and lack of sleep, the fraction of sessions that occur late at night (12AM - 4AM) was used for this paper.
- 12AM-4AM is the approximate time period associated with higher negative affect in Golder & Macy 2011.
- On TikTok all teens do not receive notifications at night by default:
 - 13-15 yrs old - notif muted starting at 9PM
 - 16-17 yrs old - notif muted starting at 10PM
- Apple defaults Focus Mode/Do Not Disturb to 10PM - 7AM daily
- In Youth Platform research, most parents felt 10pm-7am were appropriate hours for a 'sleep mode' (i.e., blocking hours)

1

PU Behavioral Proxies

We are currently collaborating with CWB on a "ground truth" measurement survey of problematic use on Instagram, and expect to have a PU prevalence estimate by end of H2 (see [understand plan](#)).

In the meantime, we can leverage behavioral proxies identified in a Facebook study to estimate PU on Instagram. That study found that of FB app users worldwide experience PU based on user self-report ([ref](#)) and identified the following metrics as PU proxies:

1. No-engagement late night sessions
2. Late night high volume product switching
3. No-engagement repeat sessions (Less than 10 min from end of prior session)
4. High volume of short sessions (<15 sec)
5. High Frequency notifications checking

Using these signals, plus late night long sessions (since displacing sleep is one of the negative life impacts of PU), we estimate that of IG teen users exhibit behaviors associated with PU.

Slide 1

2 Are all of these behaviors during late night hours? This isn't clear for 3, 4, and 5.

8/4/2022 5:10:05 PM

1 No, 3-5 are not related to late night use. Also pointing out that these were derived from FB data and we have recently shown that on IG these behaviors are largely driven by IG Direct usage. So we shouldn't necessarily take these at face value.

George Volichenko; 8/4/2022 5:10:05 PM

Late night use x teens (13-17)

Late Night Problematic Behavioral Proxies

1. Late night sessions

Stated teen/non-teen	Avg total sessions late night	P50 total sessions late night	P75 total sessions late night	P80 total sessions late night	P95 total sessions late night
non-teen					
teen					

1. Late night high volume product switching

Stated teen/non-teen	Avg product switches late night	P50 product switches late night	P75 product switches late night	P80 product switches late night	P95 product switches late night
non-teen					
teen					

1. Late night long sessions (since displacing sleep is one of the negative life impacts of PU)

Stated teen/non-teen	Avg Late night time spent (min)	P50 Late night time spent (min)	P75 Late night time spent (min)	P80 Late night time spent (min)	P95 Late night time spent (min)
non-teen					
teen					

VO: This is a large proportion of teens, however reducing late night time spent for teens is seen as non-controversial net positive, therefore we should look at different thresholds to understand the overall sizing of teens with any kind of time spent late at night.

Late Night Problematic Behavioral Proxies by FCI Countries:

With p95 set by the global average this is the % of WAU by Country(FCI):

FCI Country	% of total WAU teens with at least 1 PU behavior	# WAU Teens with at least 1 PU behavior
US		
Australia		
Brazil		
France		
Germany		
India		
Japan		
Korea		
UK		

**Late night use
x teens (13-17)**

This could indicate that there are key differences in markets in terms of either norms or problematic use, which remains to be seen by further research.

If we were to set thresholds based on the market it would like this:

FCI Country	Late Night Total Sessions (Teens) p95	Late Night Minutes spent (Teens) p95	Late Night Product Switches (Teens) p95	% of Total WAU teens with at least 1 PU behavior
Global				
US				
Australia				
Brazil				
France				
Germany				
India				
Japan				
Korea				
UK				

- [REDACTED] of WAU teens have at least 1 late night session* L7
- WAU teens L7 with at least 1 session:
 - >10 min: [REDACTED]
 - >30 min: [REDACTED]
 - >1 hr: [REDACTED]
- [REDACTED] Sessions [REDACTED] of total teen sessions) >10 min late night L7 for teens
- [REDACTED] of WAU teens have 1 or more sessions every night L7
- [REDACTED] of teen sessions between 12 am and 4 am start due to a notif [REDACTED]
[REDACTED]

For Users with Late Night PU Behaviors:

- An average of [redacted] of teen's sessions, start from a notification or an app badge.
- [redacted] of dau start a session from a notification that was sent and clicked within 12 am and 4 am
 - [redacted] are direct text notifications

Sizing/Severity Late Night Use

Session start attribution is organic							
Surface	Daily avg minutes	Daily mean minutes	Daily p95 minutes				
reels							

