AMENDED Exhibit 231

PLAINTIFFS' OMNIBUS OPPOSITION TO DEFENDANTS' MOTIONS FOR SUMMARY JUDGMENT

Document Provided in Native Format

Youth Offsite - Insights Session

October 5, 2021

A/C Privileged

Agenda

Our Audiences

Age Continuum

Landscape Overview

Teen Decline on IG

Teen Safety and Wellbeing

Discussion

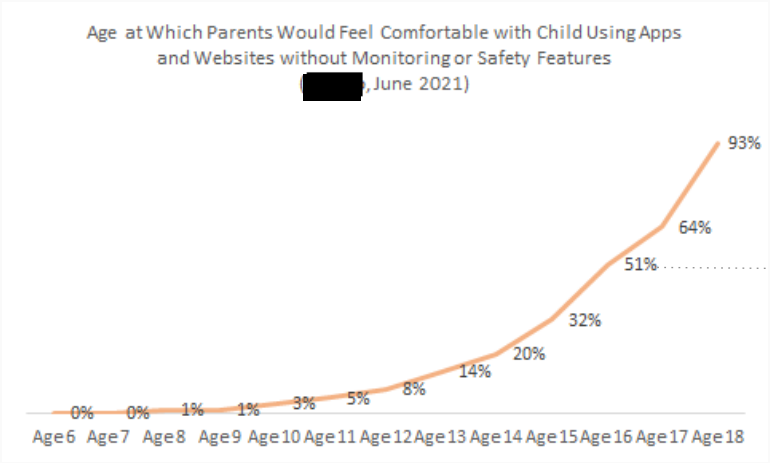
Our Audiences

Age Continuum

[redacted] and [redacted] (UXR)

Age-appropriate parent/guardian monitoring is important.
It correlates with better parent-child relationships, protection against tween/teen harassment, higher academic achievement, and lower delinquency and risk taking for the child.*
* [redacted], June 2021

Parents/guardians want to monitor child app usage well into the teen years.



Age 16

half of parents no longer feel need for parental monitoring/safety features

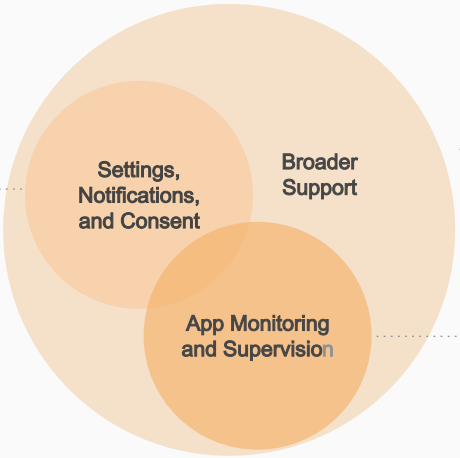
Parents/guardians also expect their child to be open to a supervised IG account well into the teen years.

Oldest Age Parents Expect Child Would Use IGY
([redacted], October 2021)

Designing for Parental/Guardian Digital Support

A combination of all three elements are important when designing for support.

Support to help parents/guardians interpret and take action on information about child's app usage such as insights and in-context education.



Broader education and communication features to help parents/guardians advise, learn with, and care for teens as well as foster mutual trust.

In-app or on-device features that parents/guardians can control.

Tween to Teen: Ages and Stages

	Tween (9-12)	Early Teen (13-15)	Late Teen (16-17)
Biological	Mostly prepubescent (puberty M = girls 11, boys 12)	Pubescence, rapid biological changes	Slowing physical growth (esp. girls)
Socioemotional	Straddle both child and teen worlds (e.g., teen aspirational but some child interests) Same-sex friendships	Exploration of identity Emerging interest in romantic/sexual relationships Heavy influence of peers	Stabilizing of identity Increased individualization More intimate, egalitarian relationships
Cognitive	Black-white, concrete thinking	Emerging abstract/hypothetical thought	Future thinking/planning
Parent/Child Relationship	More accepting of parental oversight and rules	Increased desire for independence (with more family conflict)	Parent more as advisor (reduced family conflict) More independence

Parent/guardian monitoring and support changes as child matures.*

	Feature	10-12 Yr Olds (Tween - US)	13-15 Yr Olds (Early Teen - US)	16-17 Yr Olds (Late Teen - US)
Discussing	Regular discussion about what child does online	69%	66%	61%
Using Tools and Settings	Use tools or features on device and/or app	64%	56%	32%
Connecting	Follow child on apps they use	38%	40%	31%
	Be child's friend or connection on apps	34%	37%	35%
Setting Rules	Set boundaries around device access	48%	42%	30%
Monitoring - Less Invasive	Listen to/watch what child is up to online	54%	48%	34%
	Check child's device in front of them	51%	41%	35%
Monitoring - More Invasive	Check device history	54%	43%	33%
	Check device without child's knowledge	34%	28%	18%
	Use child's username/password to access child's account	26%	23%	16%
	Have copies of child's apps on phone	19%	17%	11%

*Adapted from [redacted], June 2021. Green > 50%, yellow 33%-50%, red <33% of parents.

Desired parental settings also change over time.*

Parent/Guardian as Gatekeeper	Parent/Guardian as Coach	Parent /Guardian as Trusted Advisor
Tween Years (9-12) - U.S. • Gatekeeper for many things, including followers, kinds of content, and device access • Immediate notifications for people followed, with possible mediation • Guardian access to at least recent direct messaging content	**Early Teen Years (13-15) - U.S.** • Gatekeeper role reduced to purchasing and high stake actions • Immediate notifications for contacts, people interact with, and shared content, with possible mediation • High level summary of direct messaging without access to full content	**Late Teen Years (16-17) - U.S.** • Gatekeeper role may be further reduced • Minimize or end passive monitoring; mediation is teen lead or by invitation only • Notifications largely aimed at teens

*Adapted from [redacted], June 2021

Parental monitoring during late tween/early teen years becomes about coaching them to become independent adults, NOT CONTROL.

*"Messenger Kids is an app through Facebook Messenger, and you have **FULL CONTROL OVER EVERYTHING** that they see and do and who they're talking to because you set it up to where they can't request a friend without a parent's permission."*

- Mom of 6 yr old -

*"I feel like once they hit high school, they've hit that maturity level and they've kind of figured out who they are as a person and understand things a lot better… those middle school years, I feel like those years they're still trying to figure out who they are as a person and they don't quite understand how the whole world works. So I would keep (IGY) until she starts high school in ninth grade… **IT'S BONDING, FORMING RELATIONS, AND TALKING AND TEACHING OUR KIDS HOW TO COMMUNICATE AND TALK WITH US INSTEAD OF CLICKING A BUTTON.***

*I don't just want to throw them into some kind of adult usage, and I like to be able to monitor **NOT BECAUSE I"M NOSEY AND STALKING MY CHILD BUT JUST BECAUSE I LOVE TO TEACH MY KIDS AND I DON'T KNOW WHAT EXACTLY TO TEACH THEM IF I DON'T SEE WHAT THEY'RE DOING.***

- Mom of tween and teens -

Quotes from [redacted]r (April 2021) and [redacted] (October 2021)

Teens' path to adulthood, autonomy, and parental trust is not linear.

Setbacks and parental/self-adjustments are common

"I once lied to my dad. I told him I wasn't talking to guy, but then he checked my phone... It was a mistake." - Girl, 15, India

"I felt grown-up when I put my phone in a drawer for a month to focus better at boarding school… knowing I could put it away also felt good" - Girl, 17, US -

Teens make mistakes and encounter trouble as they adopt new apps, identities, and networks

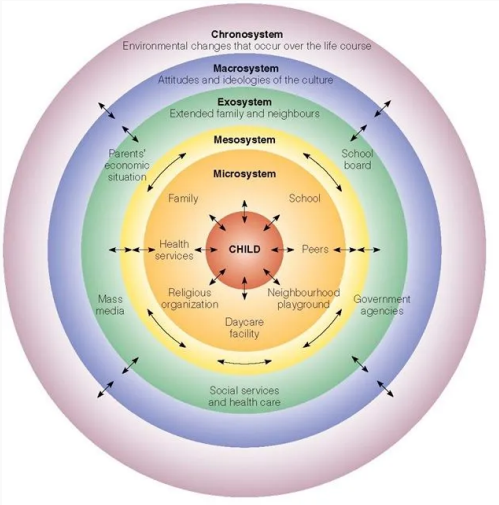
Mistakes can offer valuable learning moments and opportunities for parental guidance and self-reflection. In some cases, parents may need to offer more oversight and guidance.

I guess...thinking about responsibility, there were moments I thought I was ready but I wasn't. But I dealt with the consequences in a constructive way, I've learned from it.
- Girl, 16, Brazil -

Adapted from [redacted], October 2021

Importance of Group and Individual Differences

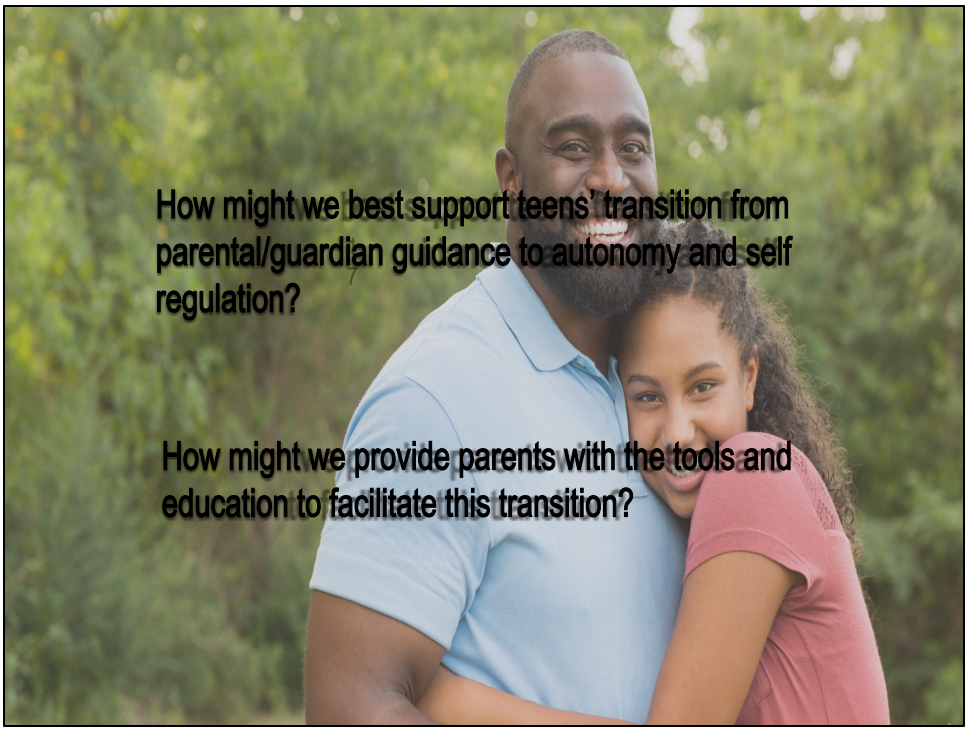
Bronfenbrenner's Ecological Systems Theory
(illustration from [redacted], November 2020)

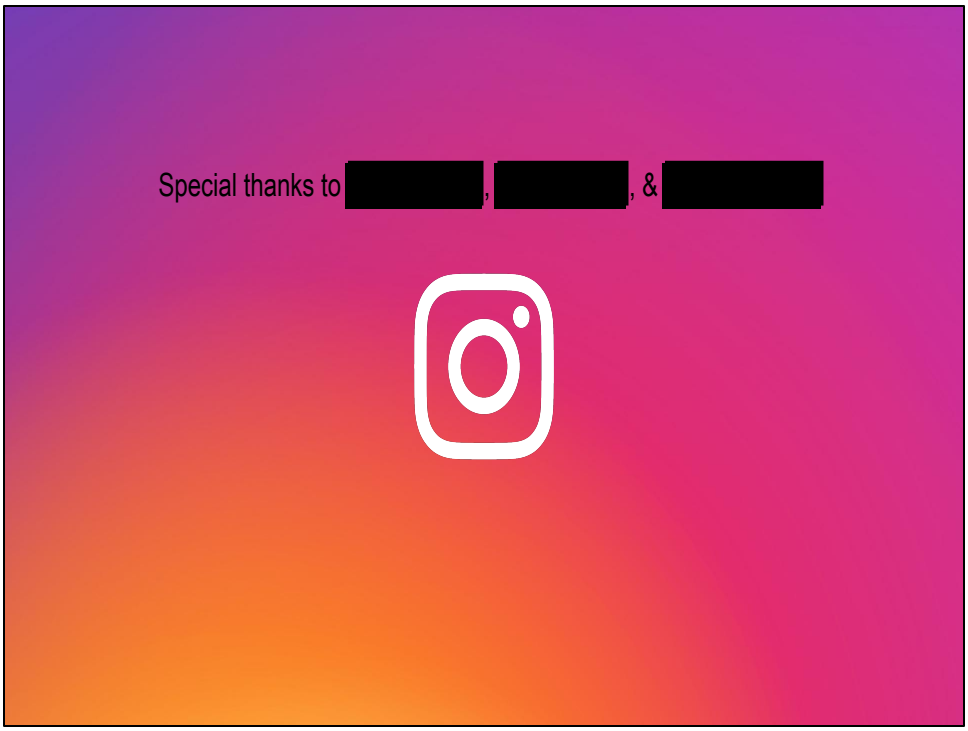


Complex influences on child's development produce important group and individual differences.

Influence is bidirectional (e.g., child-parent) so even siblings of same age may have different experiences/needs.

Families may be in position to best assess their situation and needs, even if we cannot rely on them.


How might we best support teens' transition from parental/guardian guidance to autonomy and self regulation?
How might we provide parents with the tools and education to facilitate this transition?


Special thanks to [redacted], [redacted], & [redacted]

References

[redacted] (2021, September) Key insights on teen transitions: Aging-up and the roles that parents/guardians can play. https://docs.google.com/presentation/d/1lPvxzmuc43Luj6x2GHOvgomlQu0DMMefAj99lSPUGjI/edit?usp=sharing

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[redacted] (2021, June). Parent monitoring of 6-17 year-olds' digital experiences and desires for Messenger Kids age up: UXR retrospective (extended view). https://docs.google.com/presentation/d/1Bym7QtaCUR6A77zMBlllnvOST-mALTGSMVsjvKNCDBU/edit?usp=sharing

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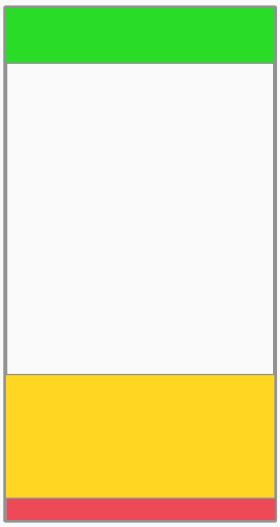
Teen Safety + Wellbeing on IG

[redacted]

Teens experience harm at higher levels than non-teens

TLDR

1. Teens experience a small percent (0.42%) of impressions that are violating current policies but **this is ~1.8x higher than for adults** and **2-4x higher** when weighted by severity across certain violation types*.
2. **~12%** of content potentially may be "age inappropriate"** for teens but not covered by current policies.
3. **We estimate 1 in 10 pieces of content (~9%**) may be "nutritious"**, but the definition of nutritious is subjective and not yet policy aligned and we don't have a clear quantitative definition to understand this yet.



~9% Potentially Nutritious**

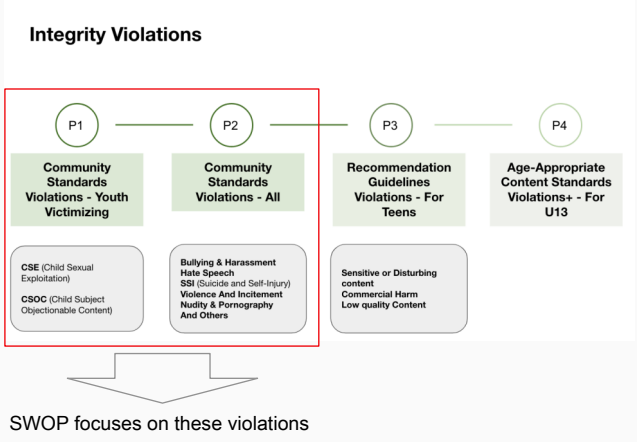
~12% Potentially Age Inappropriate**

0.42% Policy Violating*

* Policy Violating Prevalence is estimated via Severity Weighted Overall Prevalence (SWOP): see Slide 9 for SWOP intro.
**Estimated via ad hoc, subjective, low N labeling exercise. These should be treated as rough directional estimates until further validated and further aligned with policy. See slide 13 for details.

Severity Weighted Overall Prevalence: a primer

SWOP = Prevalence * Severity



SWOP focuses on these violations

SWOP =
Prevalence of CSE * Severity +
Prevalence of N&P * Severity +
….
Prevalence of VNI * Severity

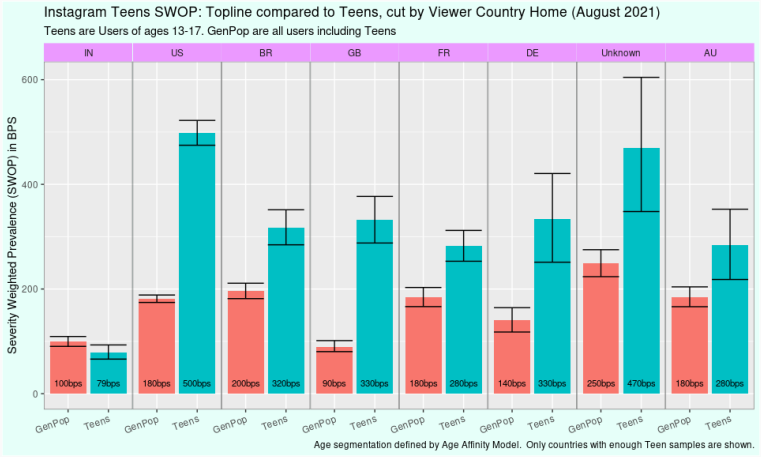
(Severity is based on Policy input and Research surveys)

What does it cover?

It is a view-based measurement, including 23 Violation type (excluding Misinfo, Spam, and Account problems), 18 Markets (~70% coverage) and 9 IG surfaces (~95% coverage)

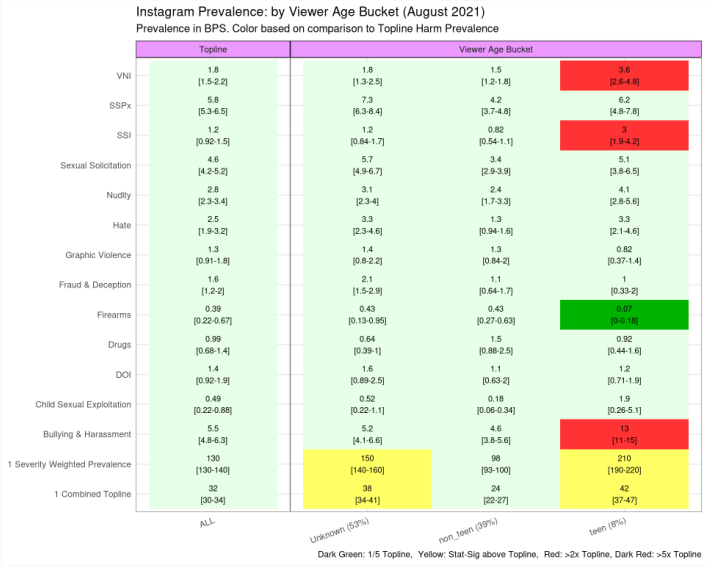
For more details see https://fburl.com/swop_intro (and see slide in appendix)

Teens see much higher Harm Prevalence Across Most Markets



- Teens see **2-4x SWOP** in every country we have enough samples to measure except India.
- The biggest deltas between Teens and the average user is in US, GB

Teens see >2x prevalence for B&H, VNI, and SSI.



Instagram Prevalence: by Viewer Age Bucket (August 2021)
Prevalence in BPS. Color based on comparison to Topline Harm Prevalence

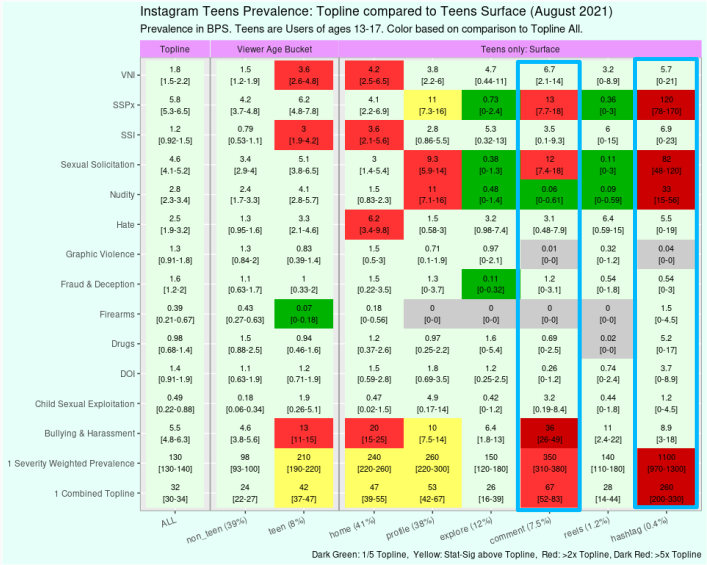
	Topline	Viewer Age Bucket		
	ALL	Unknown (53%)	non_teen (39%)	teen (8%)
VNI	1.8 [1.5-2.2]	1.8 [1.3-2.5]	1.5 [1.2-1.8]	3.6 [2.6-4.8]
SSPx	5.8 [5.3-6.5]	7.3 [6.3-8.4]	4.2 [3.7-4.8]	6.2 [4.8-7.8]
SSI	1.2 [0.92-1.5]	1.2 [0.84-1.7]	0.82 [0.54-1.1]	3 [1.9-4.2]
Sexual Solicitation	4.6 [4.2-5.2]	5.7 [4.9-6.7]	3.4 [2.9-3.9]	5.1 [3.8-6.5]
Nudity	2.8 [2.3-3.4]	3.1 [2.3-4]	2.4 [1.7-3.3]	4.1 [2.8-5.6]
Hate	2.5 [1.9-3.2]	3.3 [2.3-4.6]	1.3 [0.94-1.6]	3.3 [2.1-4.6]
Graphic Violence	1.3 [0.91-1.8]	1.4 [0.8-2.2]	1.3 [0.84-2]	0.82 [0.37-1.4]
Fraud & Deception	1.6 [1.2-2]	2.1 [1.5-2.9]	1.1 [0.64-1.7]	1 [0.33-2]
Firearms	0.39 [0.22-0.67]	0.43 [0.13-0.95]	0.43 [0.27-0.63]	0.07 [0-0.18]
Drugs	0.99 [0.68-1.4]	0.64 [0.39-1]	1.5 [0.88-2.5]	0.92 [0.44-1.6]
DOI	1.4 [0.92-1.9]	1.6 [0.89-2.5]	1.1 [0.63-2]	1.2 [0.71-1.9]
Child Sexual Exploitation	0.49 [0.22-0.88]	0.52 [0.22-1.1]	0.18 [0.06-0.34]	1.9 [0.26-5.1]
Bullying & Harassment	5.5 [4.8-6.3]	5.2 [4.1-6.6]	4.6 [3.8-5.6]	13 [11-15]
1 Severity Weighted Prevalence	130 [130-140]	150 [140-160]	98 [93-100]	210 [190-220]
1 Combined Topline	32 [30-34]	38 [34-41]	24 [22-27]	42 [37-47]

Dark Green: 1/5 Topline, Yellow: Stat-Sig above Topline, Red: >2x Topline, Dark Red: >5x Topline

The drivers of higher SWOP are **Bullying and Harassment (B&H)**, **Suicide and Self Injury (SSI)**, and **Violence and Incitement (V&I)**, which are all **>2x higher** prevalence for teens than the average user.

Source: ANP

Hashtags, Comments, and Home all see High Levels of Harm.

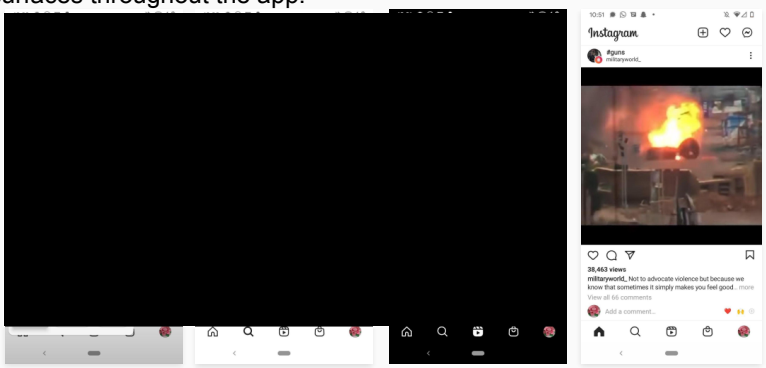


- Teens see **~9x SWOP in Hashtags** compared to the average User; particularly across SSPx, Sexual Solicitation, and Nudity
- **Comments see high rates of Bullying and Harassment** for Teens
- Teens also see **higher prevalence of harms on Home, particularly B+H, SSI, and VNI**

Source: ANP

While 0.42% of content is policy violating, we have reason to believe that ~12% of content* is potentially inappropriate for early teens.

And after viewing or engaging with inappropriate content, it starts to show up more and more on recommendation surfaces throughout the app.



Explore Grid | Explore Chaining | Reels | Feed Recs

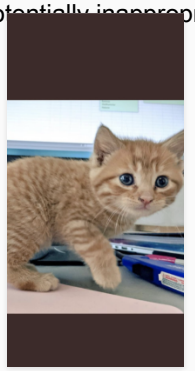
*We conducted a labeling exercise where we manually labeled a random sample of media that teens see. The approach we took is subjective, but provides directional evidence that there is far more age-inappropriate content on our recommendation surfaces than our prevalence numbers may suggest. This link provides a sample of media that teens saw on Explore.

We took an early teen lens here. It is likely that as teens get older, there is far less content that we may believe is inappropriate for them.

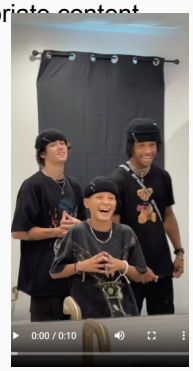
And of the ~88% of content that we believe may be appropriate for teens, only ~1 in 10 of them may be ‘nutritious’ for teens.

While this sizing exercise is subjective, we see this as directional evidence that further policy development (and especially differentiating by age band) is likely foundational to our ability to effectively promote 'nutritious' content and protect teens from potentially inappropriate content.

Gaming



Animals



Dance Videos

*We conducted a labeling exercise where we manually labeled a random sample of media that teens see. The approach we took is subjective and therefore the definition of nutritious can vary from person to person.

We took an early teen lens here. ‘Nutritious’ content can also look different for early teens and older teens.

Recommendations

1. Evaluate and address gaps in existing safety policy and enforcement for Harms that disproportionately impact teens.
    a. Especially **Bullying and Harassment**, **Suicide and Self Injury**, and **Violence and Incitement**.
2. Stand up teen specific safety policy to address the estimated ~12% of the teen ecosystem that contains borderline or developmental stage-specific harms.
3. Stand up developmental stage-specific 'nutritious' content policy to ensure a sufficient levels of age appropriate content are served to our users.
4. Safety and PMF objectives will sometimes be zero-sum or in tension with each other; in setting goals we should also clarify tradeoffs (if any) that will be acceptable.

Questions:

1. What water levels of Harm/Nutritious are ‘good enough?’
   a. **Existing Policy Violating**
      i. Currently ~1 in 240 (0.42%) -> 1 in ??? impressions?
   b. **Age Appropriate**
      i. ~12% -> ???%
   c. **Nutritious**
      i. ~9% -> ???%
   d. **Other Metrics?** (Such as TRIPS or Interaction based metrics such as IIC)
2. What level of engagement losses are we willing to take in exchange for hitting Harm/Nutritious targets?