

AMENDED Exhibit 843

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

From: Josh Siegel [REDACTED]
Sent: 5/30/2018 9:49:04 AM
To: [REDACTED]
Subject: Fwd: [CONFIDENTIAL] Growth Reports 2018-05-27



----- Forwarded message -----

From: [REDACTED]
Date: Wed, May 30, 2018 at 9:39 AM
Subject: Re: [CONFIDENTIAL] Growth Reports 2018-05-27
To: Josh Siegel [REDACTED]

in general, we have a process to flag some DOBs as untrusted. 16.8% of users to be exact.

On Tue, May 29, 2018 at 11:28 PM, Josh Siegel [REDACTED] wrote:

[REDACTED] found that our default birth year when a user signs up is 2000, which may explain a significant amount of what we're seeing.

On Tue, May 29, 2018 at 5:12 PM, [REDACTED] wrote:

[REDACTED] this affects the user_cohorts table as it uses inferred_age_bucket as well.

On Tue, May 29, 2018 at 5:05 PM [REDACTED] wrote:

[REDACTED] are updating [sc-analytics:report_user.user_demographic_*] to be in sync with [sc-targeting-measurement:demographics.demographics_*], they will update this thread later today when it's done.

On Tue, May 29, 2018 at 4:08 PM, [REDACTED] wrote:

It seems that [sc-analytics:report_user.user_demographic_*] has not been updated for a while.

We update the latest demographics of all users in [sc-targeting-measurement:demographics.demographics_*] every day. Targeting, Insight, and Measurement use GREEN table and serving is done from bigtables built on top of GREEN.

Please switch your code/queries to use GREEN instead, or wait by end of today when we change RED table to be updated by GREEN from today on.

Regards,
[REDACTED]

On Tue, May 29, 2018 at 2:44 PM, [REDACTED] wrote:

What table should we look at to get inferred age? I know there is an inferred age column in [sc-analytics:report_user.user_demographic_*] but when I query that the bucket definition for inferred age looks it has an off-by-one-error or is stale. i.e. 13-17 inferred age includes 18 year olds, 18-24 includes 25 year olds, etc.

On Tue, May 29, 2018 at 2:30 PM, [REDACTED] wrote:

Thanks Josh for the clarification.

We will take a look at the distribution of the inferred age 13-17 and how is that trending over time. In this way, we will be able to see why 13-17 from self-reported age is declining and but 13-17 inferred age is not. Hopefully this is a step further to find out the "truth".

Thanks

■

On Tue, May 29, 2018 at 2:20 PM, Josh Siegel [REDACTED] wrote:

Talking offline with [REDACTED] I wanted to clarify the question: are we losing 13-17 users at a consistent and rapid pace as shown in [REDACTED] charts?

If we use self-reported age, we are; if we use inferred age, we aren't.

There are a lot of differences between these methodologies:

- Many users do not have a self-reported age
- Many users lie about their age (last I checked, 13-17 was the most discrepant group when comparing inferred to supplied)
- Inferred age queries look at the user's inferred age as of today, while self-reported age might be point in time (don't think this matters much though)
- Based on panels we've used with third parties, inferred age is more accurate for our users, which is why we use it for ad targeting

It's possible that users with a 13-17 inferred age includes enough users who self-reported to be 18+ that that accounts for the full difference. But we should be able to track that down via looking at the distribution, I think.

We want to understand what's closest to the truth, and if the truth is the inferred age trend, why is that so different from self-reported age?

Would really appreciate someone raising their hand to track this down.

On Tue, May 29, 2018 at 1:19 PM, [REDACTED] wrote:

For the record, in the plots I've been sharing showing core 13-17 users leaving the service, The source of the age data is `sc-analytics:report_app.dau_user_country_*`, which gets age from `sc-analytics:report_user.user_demographic_*`, which gets age from `sc-analytics:report_user.identity_*`, which is a copy of `feelinsonice-hrd:user_identity.aggregate_identity_metrics_v2_*`, which gets age from `feelinsonice-hrd:user_identity.user_personal_info_*` which is populated by this DAG: https://flowrida.sc-corp.net/admin/airflow/graph?dag_id=identity_user_personal_info

That last one I'm not sure how it works. It might be copying stuff from GCS? I'd need to research it more.

Can anyone trace the provenance of age in the datasets that disagree? Then we could compare and try to figure out where they diverge.

-J

On Tue, May 29, 2018 at 12:16 PM, Josh Siegel [REDACTED] wrote:
Combining threads and adding [REDACTED] - let's please track down the source of these discrepancies today if possible

On Tue, May 29, 2018 at 12:00 PM [REDACTED] > wrote:
Hm just comparing the data, why would using self-reported age vs inferred age differ so much? 13-17 DAU seems to be ~50M when using inferred age and ~37M when using self-reported age.

From the Quest age logic, we are definitely seeing declines in 13-17 year old DAU. But [REDACTED] charts (figure 2) don't show a decline. What is the age pseudocode to generate those charts?

Figure 1 -

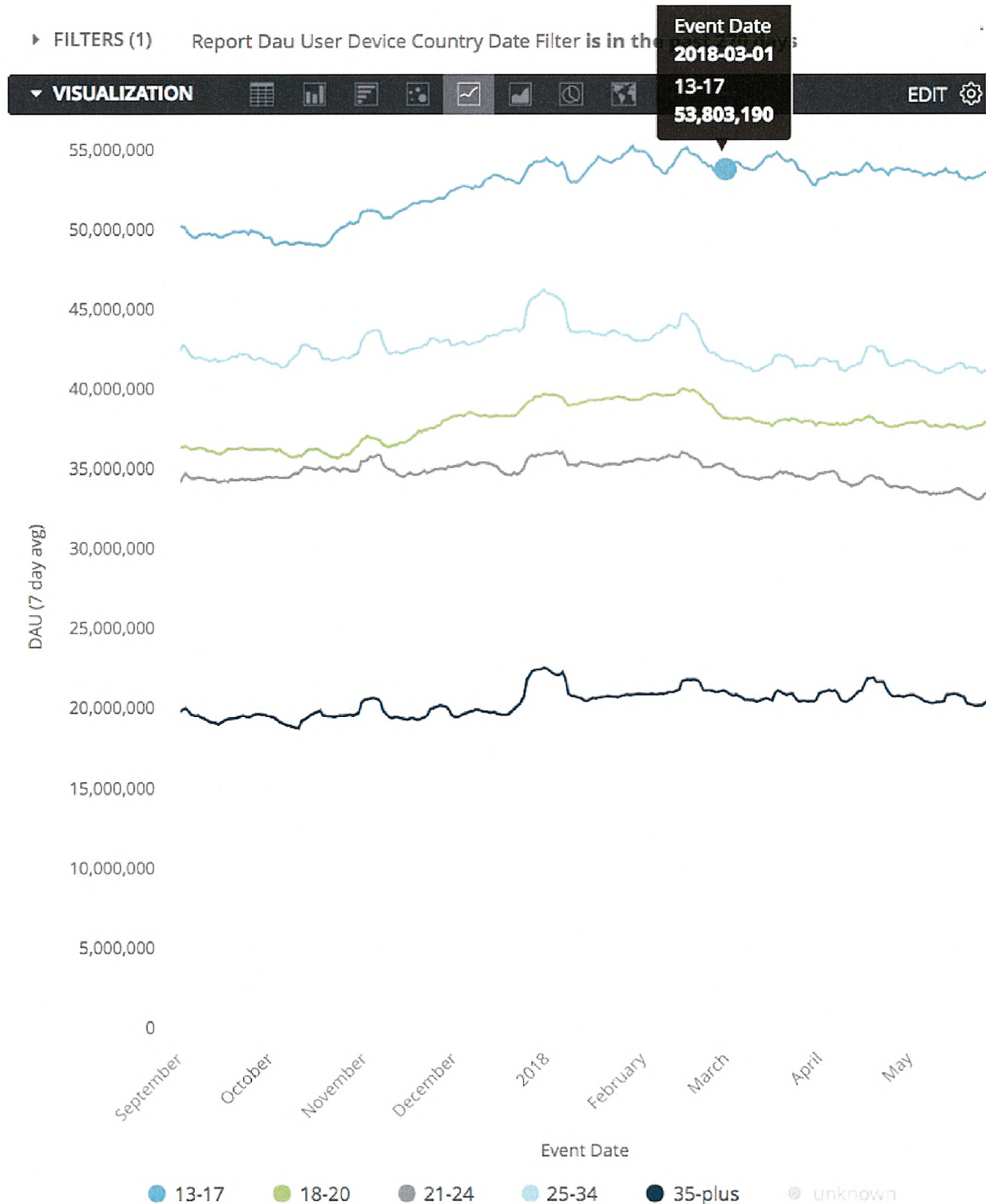
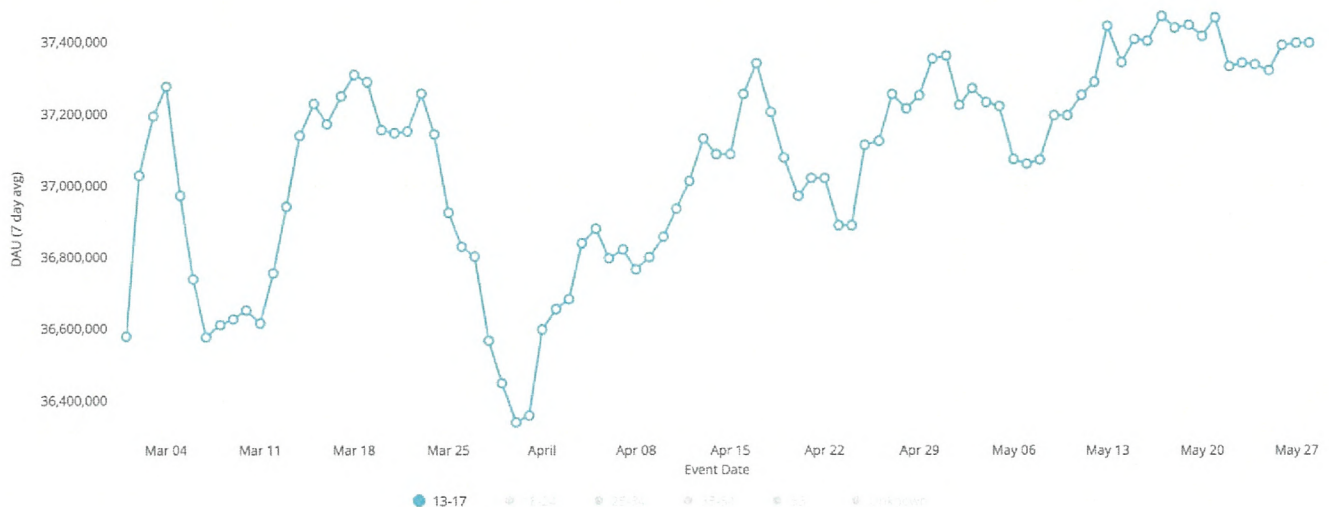


Figure 2

Using "Age Group"

Using "Reported Age Group" [link](#)

On Tue, May 29, 2018 at 10:54 AM, [REDACTED] wrote:
 We're using report_app.dau_user_country and report_user.user_demographic with an age logic of: self-reported age if it exists else inferred age else unknown. Apparently this is Quest's age logic

On Tue, May 29, 2018 at 9:57 AM, [REDACTED] wrote:
 [REDACTED] which table source are you using? You folks are definitely the experts on the user/DAU tables, so you'll know more about the right source than me - I just noticed that the Looker link Josh/[REDACTED] are using seems to have higher total DAU than daily metrics email (e.g., the Looker source has 189mm-198mm total DAU from 5/24 - 5/28, while daily metrics has 184mm-191mm total DAU during the same period), so figured it might be worth ruling out a data source discrepancy.

On Tue, May 29, 2018 at 9:45 AM, Josh Siegel <[REDACTED]> wrote:

Yeah now I'm confused too. Adding [REDACTED] - can you please look into what's going on here and let us know?

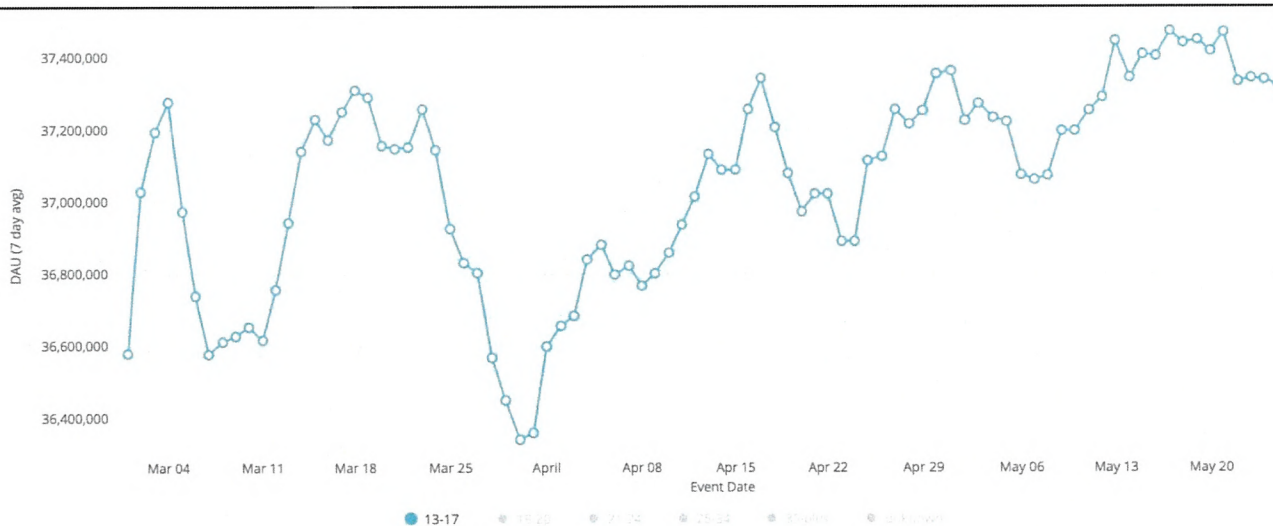
On Tue, May 29, 2018 at 9:24 AM, [REDACTED] wrote:
Josh,

When I use "age group" field and "reported age group field" I still don't see that significant drop:

Using "Age Group"



Using "Reported Age Group" [link](#)



On Tue, May 29, 2018 at 9:08 AM, [REDACTED] wrote:

still the legacy. We are going over the roll-out plan this week (it won't be a sudden release).

On Tue, May 29, 2018 at 9:05 AM, [REDACTED] wrote:
[REDACTED],

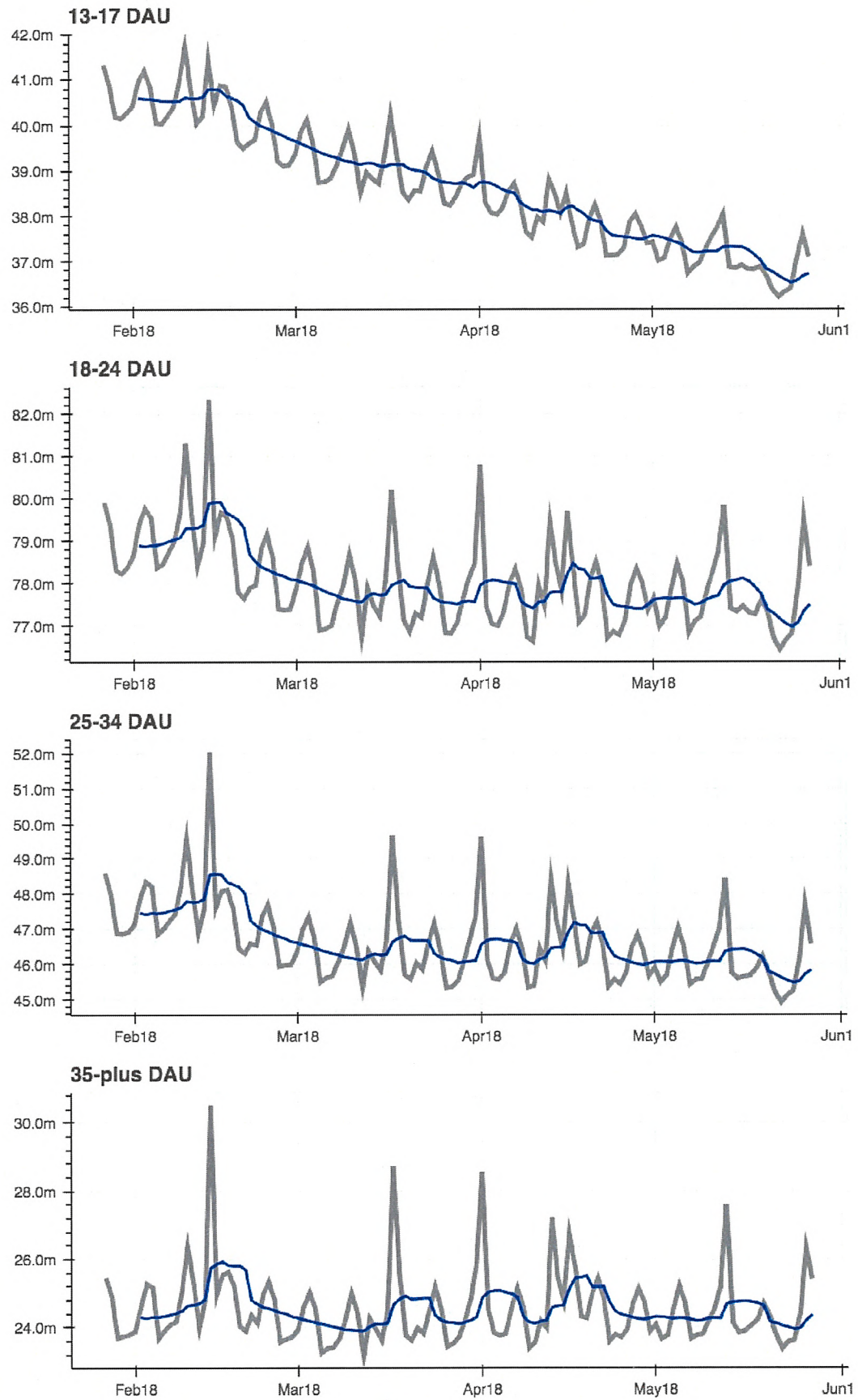
Do we have the new inferred model in production? or we're still using the legacy model?

On Tue, May 29, 2018 at 9:04 AM, Josh Siegel [REDACTED] > wrote:
Thanks. We had a bit of a code red when we saw this report on Friday and just want to know if we are looking at the right thing.

On Tue, May 29, 2018 at 8:57 AM [REDACTED] wrote:
Let me get back to you by end of today. We have a new age model in place and we can compare against that in addition to our old model.

On Tue, May 29, 2018 at 8:53 AM, Josh Siegel [REDACTED] wrote:
Hey guys - Any idea why we're seeing a huge drop in 13-17 when we look at self-reported age and no drop when we look at inferred age? This is the view in the email V [REDACTED] generates from self-reported age, which is very different than what we see from inferred:

By Age



----- Forwarded message -----

From: **Josh Siegel** [REDACTED] >

Date: Tue, May 29, 2018 at 8:37 AM

Subject: Re: [CONFIDENTIAL] Growth Reports 2018-05-27

To: [REDACTED] [REDACTED] [REDACTED] Jacob Andreou
[REDACTED]

(-list) Thanks, I think we should always use inferred age if we want the most accurate view for long term trends. 13-17 is the most inaccurate group for self-reported. Can you guys please let us know why it looks like we're seeing a dramatic drop in 13-17 in your report when using self-reported age? I think Jacob, Imran, Evan, and others are all looking at this report with great concern.

Happy to help loop in others ([REDACTED], [REDACTED], etc.) who have looked at similar things in the past.

On Mon, May 28, 2018 at 7:22 PM, [REDACTED] wrote:

Hi Josh - yeah the age used here isn't inferred age. It is self-reported age if it exists else inferred age else unknown, and the data is sourced from the same blizzard pipelines.

I'm a bit befuddled why inferred age versus self-reported age would look different directionally for 13-17 year old's as of late. I agree this is perhaps worth looking into more.

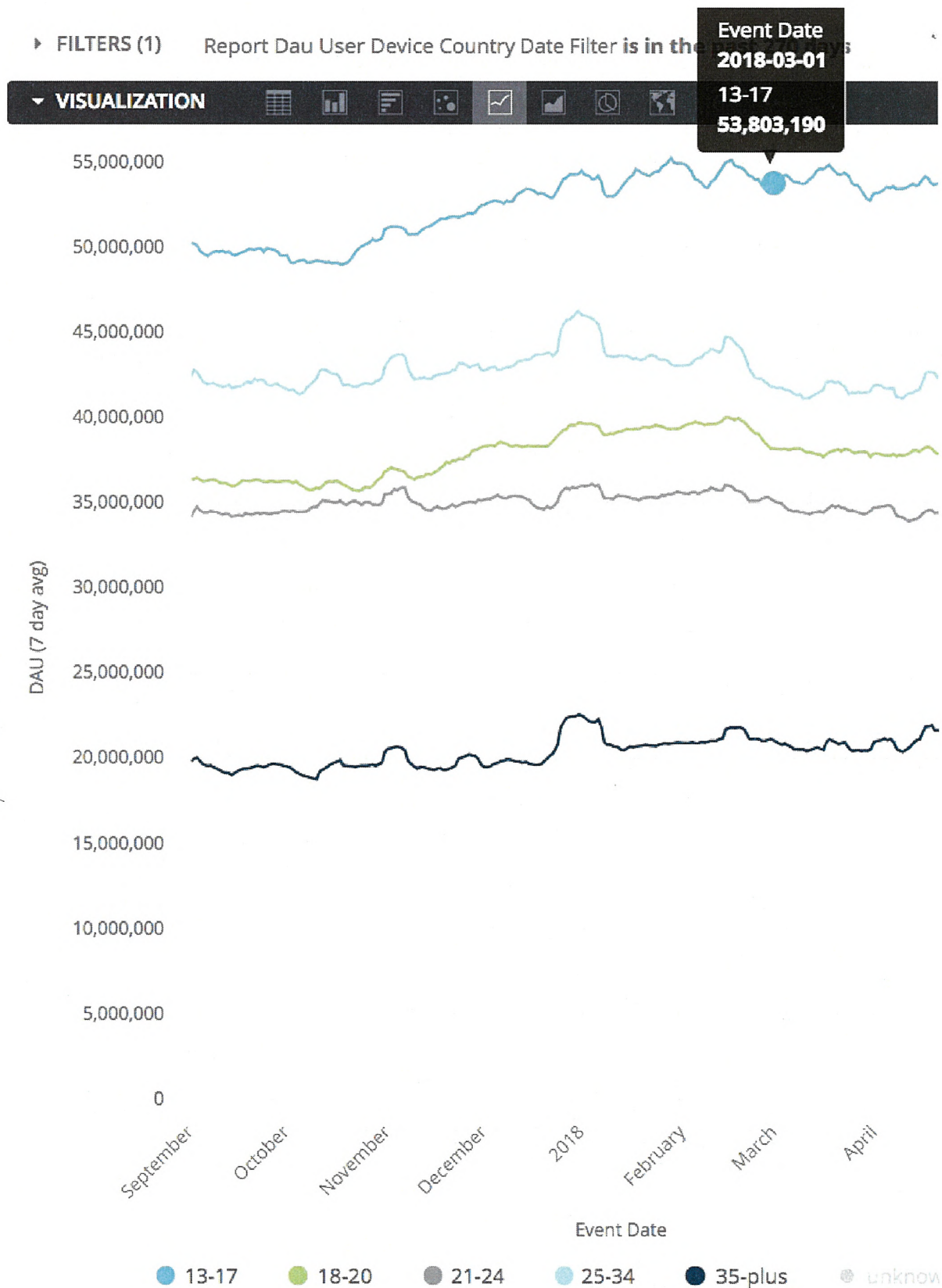
On Mon, May 28, 2018 at 11:41 AM, Josh Siegel [REDACTED] wrote:

Another hypothesis is that users are creating new accounts when they graduate high school / get to college, but I don't know if that would matter -- if my input age is 17 and I abandon that account and create a new one, I don't think that should impact this.

On Mon, May 28, 2018 at 11:38 AM, Josh Siegel [REDACTED] wrote:

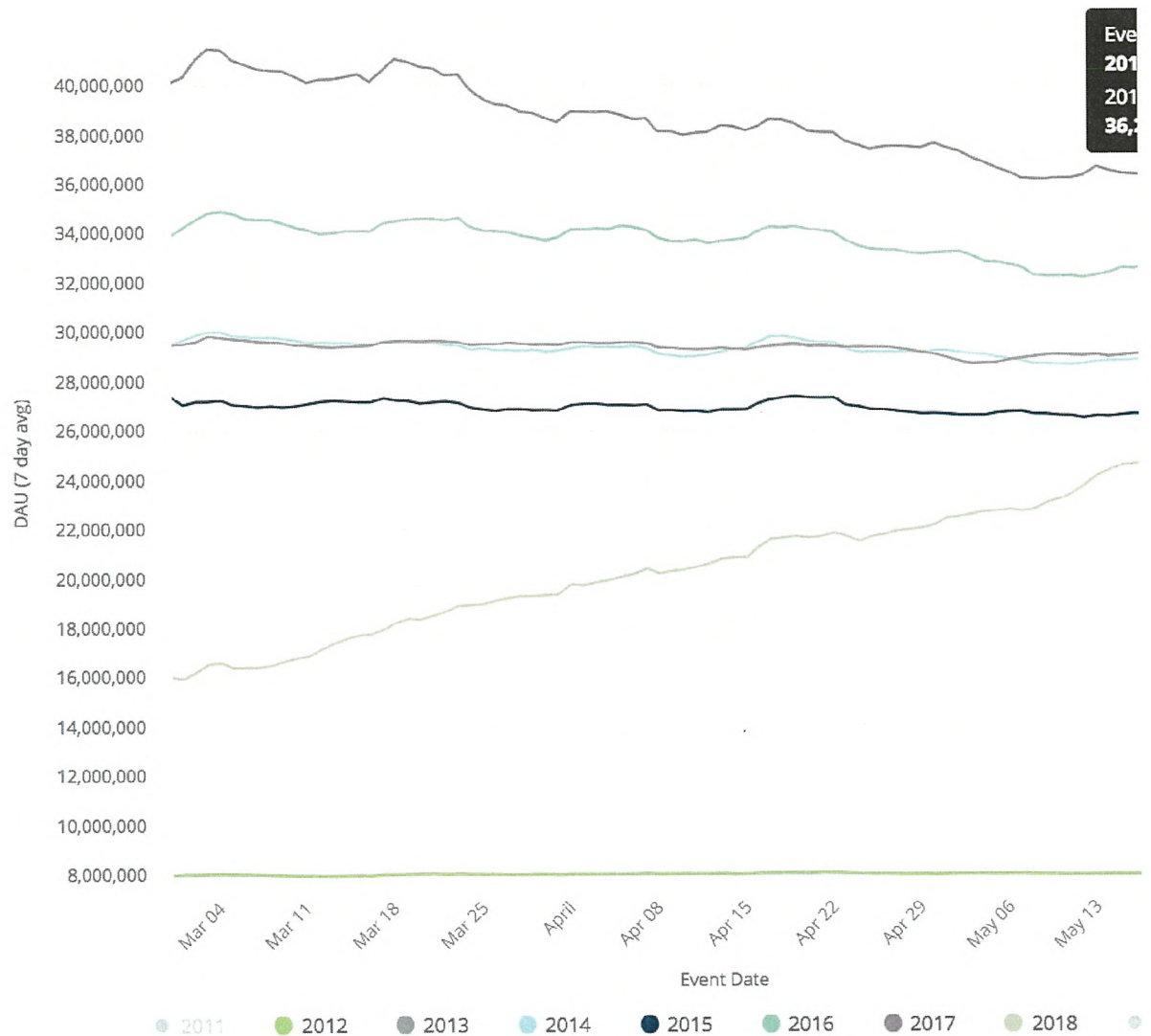
Hey [REDACTED] - Can you take a deeper look at the difference between the age field you use in this report vs inferred age tomorrow?

Something is odd. Your report shows that most (2/3, almost 4M) of the DAU drop in Q2 comes from the 13-17 year old cohort, but when I look at this by inferred age (user's inferred age as of today), I see little decline in 13-17 DAU and more of a decline in 21-24 ([link](#), takes 5-10 min and 2TB to run).



I know we don't have age for a lot of users who signed up before 2014, so I also looked at this by signup year ([link](#)) and it seems like we lost more than 2M users

who signed up 2011-2014, but I'm not sure if that fully accounts for the discrepancy between input and inferred above:



I'm not very close to the inferred age pipeline anymore, nor do I know which tables are reliable, so please let me know what I'm missing here.

On Mon, May 28, 2018 at 10:52 AM, 'Growth Reporting' via Growth Reports <[REDACTED]> wrote:

Growth Reports

Sunday May 27, 2018

[Confidential] Please do not forward or redistribute content in any way.

DAU Trends

describes the movement of DAU globally, as well as by country and age.

05/27/2018

DAU Decision-Based Breakdowns

describes DAU wow by order of significant breakdowns

05/27/2018

DAU Short-Term Attribution

describes DAU movement (last week compared to this week)

05/27/2018 iOS 05/27/2018 Android 05/27/2018

DAU Medium-Term Attribution

describes DAU movement (last 4 weeks compared to the 4 weeks prior)

05/27/2018 iOS 05/27/2018 Android 05/27/2018

Country Report

a country-level digest with overviews on user breakdowns and engagement

US FR GB IN DE SA CA AU ES IT JP BR MX

RU TR PL

Country Metrics Report

a country-level digest of metric movements

US FR GB IN DE SA CA AU ES IT JP BR MX

RU TR PL

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You received this message because you are subscribed to the Google Groups "Growth Reports" group.

To unsubscribe from this group and stop receiving emails from it, send an email to

[REDACTED]

To post to this group, send email to

[REDACTED]

To view this discussion on the web visit

<https://groups.google.com/a/snapchat.com/d/msgid/growth-reports/TD5bfKNERFiUxQ73jkdrv%40ismtpd0041p1mdw1.sendgrid.net>.

[illegible]

DOCUMENT SLIPSHEET

Bates Number: SNAP2367515-SNAP2367527

Custodian: SIEGEL_JOSH

Author: JOSH SIEGEL

Filename: 3473E8A0B797A494F3D7EAF4520A0771316CCC51F547CBDA3D01CE44D4C13A5C.EML

Create Date: 5/30/2018 9:49 AM

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