

FILED UNDER SEAL

EXHIBIT 22

SSI Desk Research

What we know

1. Instagram is a popular platform for communicating about suicide and self injury.
 - a. From 7/6/18 - 8/6/18: ~16K unique IG users admitted suicidal thoughts or intent and ~21K unique users admitted self-injury. Of these, between 45% and 60% are teens, even though only 18% of DAP are teens. On a daily basis, 5.1 million users, or 0.75% of DAP, are exposed to SSI-related content each day. 5.1M users (0.75% of DAP) are exposed to SSI-related content each day (see [HYPERLINK "https://fb.quip.com/je2rAbN5azaU" \h]])
 - b. Teens keep one step ahead of IG's community guidelines against glorifying self-injury by changing hashtags as they are shut down (see Moreno et al (2016) "[HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/26707231" \h]" and Hilin (2016) "[HYPERLINK "https://splinternews.com/teens-are-using-a-secret-language-on-instagram-to-talk-1793855892" \h]")
2. Social support decreases risk for both suicide and self-injury (see Kleiman and Liu (2013) "[HYPERLINK "https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3683363/" \h]").
 - a. Social support also increases feelings of belonging and lowers social alienation, which in turn lowers suicide risk (see Joiner et al (2009) "[HYPERLINK "https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2846517/" \h]")
 - b. Furthermore, a strong social network provides a coping mechanism through negative life events (see Meadows et al (2005) "[HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/16134048" \h]"; Yang and Clum (1994) "[HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/8053007" \h]")
 - c. Teens are going online to build communities of support. ~39% of teens and young adults have gone online to find people with similar health conditions. (Rideout and Fox (2018), "[HYPERLINK "https://www.hopelab.org/reports/pdf/a-national-survey-by-hopelab-and-well-being-trust-2018.pdf" \h]")
 - d. People who struggle with SSI want a safe space to discuss their experiences, they want to interact with others who relate to their struggles, and there are people who are interested in helping others (
3. Suicidal behavior is associated with being: female, young, less educated, unmarried, or diagnoses with a mental health disorder (Nock et al (2008) "[

HYPERLINK "https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2259024/" \h]").

- a. **A key intervention point exists at the suicide plan stage.** 1 in 3 adults with suicidal ideation create a suicidal plan. Of those with both suicidal ideation and a suicide plan, more than half attempt to kill themselves. Of those with suicidal ideation and no plan, only 15% attempt suicide.
4. Suicide contagion is a serious risk. After a highly publicized suicides, online posts about suicidal ideation and self-harm increase (Kumar et al (2017) "[HYPERLINK "https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5507358/" \h]")
 - a. Seeing SSI admissions on Instagram is significantly associated with increased time spent as well as posting SSI content. However, it is unclear what the causal mechanism is; those pre-disposed to self-harm could be actively seeking out SSI content ([HYPERLINK "https://fb.workplace.com/notes/[REDACTED]/people-exposed-to-suicide-self-injury-content-on-instagram/1981552158800881/" \h]")
5. Extreme communities online (those that promote and support beliefs generally unaccepted by society, such as eating disorders, self-harm, or suicide) provide a false sense of belonging but promote injurious behavior.

What we don't know

We don't have a clear understanding about who reaches out for help on Instagram, the effects of posting (or not posting) on subsequent real world behavior, or the effects of seeing SSI content on viewers. We also don't understand the barriers that people face when seeking or receiving help from others on IG.

Contagion and triggering are serious risks, although academics used to be confused about suicide contagion. That being said, we don't know how to identify users who are most vulnerable to SSI content or key intervention points.

Appendix

- [HYPERLINK "https://fb.workplace.com/notes/hitomi-hayashi-branson/suicide-and-self-injury-ssi-part-1-a-review-of-the-literature-and-a-look-into-ss/169049397329587/" \h] (9/21/18)
 - IG is a popular platform for communicating about suicide and self-injury, but **we don't know much about who does and does not post, the effects of posting or not posting on subsequent real world behavior, or the influence on viewers.** We also don't

- understand the barriers that people face when seeking/receiving help from others on IG.
 - Contagion and triggering are serious risks, given IG's reach, but we don't know how to identify **users who are most vulnerable to SSI or key intervention points.**
 - Social support decreases risk of both suicide and self-injury.
- [HYPERLINK "<https://fb.workplace.com/notes/hitomi-hayashi-branson/suicide-and-self-injury-ssi-part-2-building-support-on-instagram-and-a-look-at-o/169804400587420/>" \h] (9/24/2018)
 - Users are building healthy support communities for SSI on IG.
 - There are people who want to help but need to right tools. **They may not know how to help or lack the tools and resources they need to be effective supporters.**
- [HYPERLINK "<https://fb.workplace.com/photo.php?fbid=190649991836194&set=a.190648945169632&type=3&theater&ifg=1>" \h] (10/30/18)
 - Protect users who express or who are exposed to SSI-related content
 - from 7/6/18 - 8/6/18: ~16K unique IG users admitted suicidal thoughts or intent; ~21K admitted self-injury; 45-60% are teens (but teens are only 18% of DAP)
 - 5.1M users (0.75% of DAP) are exposed to SSI-related content each day; problem of suicide contagion
 - Copy cat suicides (high-profile, media centered on SSI gains popularity, report on suicide is released)
 - Foster a safe and supportive environment for users affected by SSI
 - Hindered by stigma and social comparison
 - Raise awareness to educate and normalize the conversation about mental health issues (sharing personal stories, e.g.)
 - Intervene early and often, before users at risk for SSI are in danger
 - Early intervention is more helpful than later stages of distress (less willing to receive/ask for help, less capable of changing their mind-state, less able to employ coping skills)
 - Educate users about warning signs (poor sleep, loss of appetite, withdrawal from others, not enjoying things they used to, mood swings/agitation, having thoughts that indicate risk) and drivers (interpersonal relationships, work/professional stressors, self-esteem/self-worth, loneliness, sense of purpose)
 - Develop coping skills, especially at key life stages
 - Leverage the IG community to support those in need
 - Helpers can be:

- Friends/peers/family members
 - People with lived experience
 - Teachers/educators
- What they need to know: It's not about being a professional, it's about being a good friend and person.
 - Warning signs
 - How to initiate the conversation
 - The appropriate language to use
 - How to be an active listener
 - Resources
 - When/how to escalate situations
- Helpers also need support, guidance, advice on whether they should engage, reassurance that they're doing the right thing
- Tailor resources to individuals and communities with different needs
 - Youths, especially LGBTQ youth
 - Asian and Indian communities
 - Resources-poor area (e.g., rural areas)
 - Men (who don't communicate or reach out for help)
- Open questions:
 - **What is IG's role in SSI? Do people want to hear from IG? How would users feel about IG monitoring for SSI content?**
 - **What tools are people currently using to control their experience on IG? What tools will result in users feeling like they have the most control over what they see on IG?**
 - How can we promote SSI story sharing in a way that is safe and doesn't negatively impact the IG environment?
 - How can we better identify key moments of intervention?
 - What people/community needs should we prioritize?
- [HYPERLINK
 "https://fb.workplace.com/groups/ResearchInsights/permalink/2282346715147264/" \h]
 - 18 in-depth interviews with IG users with lived experiences
 - Suicide/Self-Injury (SSI) is just the tip of the iceberg - SSI doesn't happen in isolation. Users described mental health problems, past abuse, life stressors, and negative experiences on IG. Addressing this problem holistically will improve our ability to make an impact.

- Opportunity: We can deliver more resources for co-occurring issues and also develop a way for users to indicate the help they need so that we can point them in the right direction.
- Needs do not start or end with the actual thought/act of SSI - Our current response to SSI is largely limited to addressing impulses/emotions when someone may be considering SSI. However, addressing emotions and risk factors leading up and following the moment can help prevent future SSI.
 - Opportunity: We can help people develop coping skills and individualized plans early on, and continue to reach out after. We can also develop resources that speak to a range of distress levels, from just feeling down to suicidal.
- People use Instagram to connect, to share, and to be uplifted - People are already using IG to get through difficult times; however, some people face challenges in connecting with others, reaching out for help, and expressing themselves.
 - Opportunity: We can foster a safe and inclusive space for users to connect with others and share their stories by facilitating supportive conversations and highlighting key content (e.g., resources, stories). We can also promote mental health among users by providing them with a range of on and offline strategies.
- People don't share because they are worried about how others will respond to them...and Instagram isn't helping - Negative, confused, and over reactions deter people from asking for help. And Instagram's responses to SSI (e.g., reporting, censoring, alerting authorities) can be harmful.
 - Opportunity: We can help users feel comfortable sharing their experiences on Instagram by: a) increasing awareness and education on mental health issues, b) teaching users how to support each other, and 3) developing more prevention and support-based approaches.
- Our resources are falling short in a number of ways - Users believe that the support options are not comprehensive, have limited applicability, and are too complex. Users would also like more options to connect directly with peers who they can relate to.
 - Opportunity: We can match resources to indicated distress levels, provide users with individualized resources, and directly connect people with volunteer supporters (who have been touched by SSI) when they need lightweight support.
- People Exposed to Suicide/Self Injury Content on Instagram
- JED's resources Help a friend in need (Warning signs on FB and IG)

