



Can social media save kids' lives?

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Marisa is currently a student at the University of California, Berkeley. This study is sponsored by Securly, a provider of cloud-based web filtering for K-12 schools and parental controls for homes. Securly also offers solutions for the real time detection/mitigation of cyberbullying on social media, GMail and chats.

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Summary



The average school district faces threat of teen suicide about every two weeks.

This conclusion is result of our analysis of over a half million social media posts from over 300 high schools across the country in 2016.

Schools are seeing student social media activity increasingly geared towards bullying, stalking, and disturbing notes around violence & self-harm. This has left school administrators questioning where to draw the line on responsible use of District owned devices, and how to best protect their students.

We have used Machine Learning to search for emotional language and negative sentiment in social media posts. Developed alongside world-renowned data scientist [Yi Zhang](#), this approach detects phrases like “I don’t know how much longer I can handle this” and “Nobody likes you” – even in the absence of obvious keywords like “suicide”.

Using this technology, we were able to amass the data presented in this white paper. This pertains to online student behavior and its tendencies toward cyberbullying, depression, and self-harm.

Background

**Social media enables cyberbullying.
Cyberbullying increases suicidal thoughts.
Immense tragedy results.**

This has been a horrible reality for many parents and teens across the country. Suicide is the the third leading cause of death among middle school children ages 10-14, the second among young adults ages 15-24.¹ A study in Britain found that 50% of all suicides in these age groups are related to **bullying**.² Certainty of this causal relationship is demonstrated by terms like “cyberbullicide”, as used in an American Public Health Association study.³

Given that social media is the prime avenue for cyberbullying, it is reasonable that some schools wish to block social media as a preventative measure. But in today’s world, it is completely integrated into young adults’ lives; students are increasingly turning to social media to express themselves. Thus, leaving these channels open can actually serve as a tool for preventing teen suicide and combating its root cause, cyberbullying.

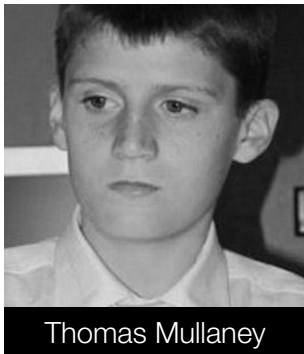
Securly’s Sentiment Analysis technology relies on **natural language processing** algorithms to determine the underlying intent of a student’s online post. The data presented in this paper is derived from these algorithms. It was used by schools in many cases to ensure that students are able to receive the proper support they need to work through emotional distress.

¹ <http://www.cdc.gov/violenceprevention/pdf/suicidedatasheeta.pdf>

² <https://nobullying.com/bullying-suicide-statistics/>

³ <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3477910/>

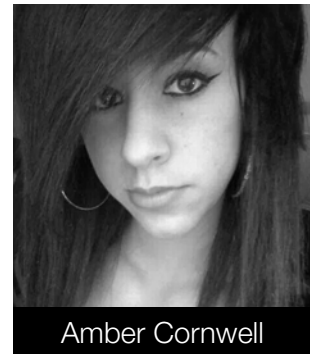
The victims.



Thomas Mullaney was threatened online by his classmates regarding a school altercation. He hung himself on May 19, 2010.



Tyler Clementi was tormented via social media after his college roommate exposed personal facets of his life on the internet. He jumped off the George Washington Bridge on September 22, 2010.



Amber Cornwell was belittled by peers through messenger, texts, and Facebook. She took her life on December 20, 2014.

These three high-profile cases are representative of **many others** who were subject to emotional violence, and committed suicide as a result.

In hindsight, Thomas, Tyler, and Amber all left signs that trigger red flags. Thomas Mullaney's aggressors' threats were clearly visible online. Amber published *"If I die tonight, would anyone cry?"*. Tyler's social media posts leading up to his premature death indicated that something was awry, and his Facebook post *"Jumping off the gw bridge sorry."* served as his final words. Yet, these were brought to light only after each respective student's demise.



Tom Mullaney

why dnt you SHUT THE F*** UP :@:@:@:@:@:

19 May 2010 at 17:45 • Like • Comment

3 people like this.



man stop hyping on status come school tomorrow and i will bang you.

19 May 2010 at 17:45 • Like



Tom Mullaney lmaoooo

19 May 2010 at 17:51 • Like



im gonna actually not gonna stop punching you in your f***ed up face.

19 May 2010 at 17:52 • Like



Tom Mullaney

is a big man

19 May 2010 at 17:52 • Like • Comment



r****d you don't know how to tag you c**k.

19 May 2010 at 17:53 • Like



if you don't come school tomorrow i will come your house!

19 May 2010 at 17:53 • Like



Tom Mullaney go den

19 May 2010 at 17:54 • Like



come school tomorrow and if you don't you think im joking i will actually come your house.

19 May 2010 at 17:55 • Like



grow up.

19 May 2010 at 17:55 • Like



, do you know what you have caused! , f*** off!!

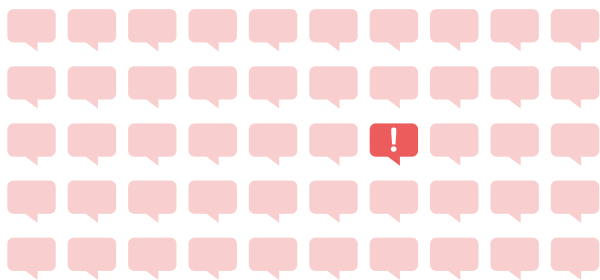
20 May 2010 at 13:36 • Like

Photos courtesy of The Cybersmile Foundation

We can stop this (using social media as a tool).

Thomas, Tyler, and Amber could have been saved. The data presented below is derived from real time Sentiment Analysis. It was used in many cases by school administrators to take the required steps to get students the care they need.

SECURLY ANALYZED OVER HALF A MILLION SOCIAL MEDIA POSTS AND FOUND THE FOLLOWING:



1 in 50 posts were flagged for suspicious behavior related to drugs, profanity, cyberbullying, threats, depression, or suicide.

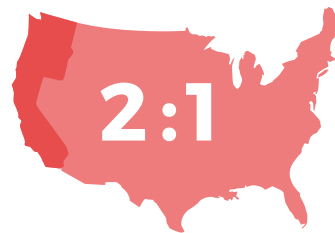


#negative emotions

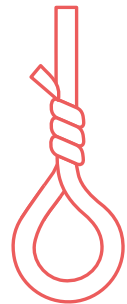
Twitter was the overwhelming favorite for kids to vent negative emotions. 71% of flagged activity was made on Twitter with Facebook Messenger following at 26%. "Other platforms" were a mere 3%.



A school district with 3,000 kids sees about 80 posts per day. With 1 in 1000 posts being high risk, a school using Securly technology should be able to detect a child needing help about once every 2 weeks.



Students on the West Coast are more likely to express suicidal thoughts online than students on the East Coast in a 2:1 ratio.



1 in 1000 posts pointed to a high risk for suicide.

ACTUAL STUDENT POSTS:

i plan on making this rant my last one, and a message to all the people who consider me their friends, why even bother with me - i'm an awful *fucking* person who only ruins friendships and *fucks* up everything i try to fix. i can't even have a normal conversation with another person without something happening, usually me losing my temper. if you consider me a friend, just don't *fucking* even bother. i'm more bound to let any of you down than anyone else i know. i'm done putting up with the stress that people give me here. and the drama. i hope you're *fucking* happy, cause if i don't kill myself, and decide to get back on, don't count on too much interaction. i *fucking* hate people - they're the worst kind of species to be on planet earth. people constantly let me down, and i pretty much hate everyone, even the people i "care about". i wanna kil myself just about all the time here, yet oddly enough, nothing like that ever happened before using this *shit* excuse for social media. i hope i've served you well, because i'm done. this is too much stress for an average 16 year old high school junior failing half his classes. @11888751140081361140140 was right, my profile is nothing but *shit* and cancer. plus i'm *fucking* hypocrite who claims to hate drama, but is always starting *shit* with people. and at this point, call me a "hog" or anything, i'm blocking you, no questions asked. i'm not even joking anymore. good-*fucking*-bye.

i *thing* wanna die gosh all the lies and bs i hear ..people saying lies about me gosh im like about to drop from the freaking scale and i just urghh wanna kill myself not caring wt people say i wann a just go up the freeway nextdoor and run into a car and die !! i hate evrything everyone either doesnt care or just says ok or theres people starting *shit* .god i *fucking* hate *it* capon rt noe and *fucking* hate my life only 18 people understand me and the rest just backstab me or just pretend i dont exist *fuck* i hate my life

"If I kill myself no one would notice"

[TWITTER, US WEST CLUSTER]

"I am legitimately contemplating suicide and i legitimately want to kill myself"

[TWITTER, US EAST CLUSTER]

We can prevent this (using social media as a tool).

*To reduce teen suicide and depression, we must eliminate a major root cause: cyberbullying. Teens exposed to cyberbullying are 2.4 times more likely to entertain suicidal thoughts according to a Journal of Adolescent Health [report](#).*⁴

Unfortunately, to lambaste has been normalized in 21st century media culture.⁵ Students are unafraid when it comes to publicly calling out their peers online. Flagged posts often include specific Twitter handles and name drops intermingled with malicious intent.

Large social media platforms are attempting to regulate online harassment and cyberbullying. Twitter plans to introduce the [Trust & Safety Panel](#) to eliminate cyberbullying and harassment; users who violate the [zero tolerance policy](#) will have their account suspended. But progress is slow coming. Dick Costolo, CEO of Twitter, admitted, **"We suck at dealing with abuse and trolls on the platform and we've sucked at it for years"**.⁶



Only 40.7% of cyberbullying victims seek adult assistance.⁷ The real time sentiment analysis approach that was used to gather data for this white paper can be used to benefit the remaining 60% before it's too late.

⁴ http://www.ncdsv.org/images/JAH_Suicidal-ideation-and-school-bullying_7-2013.pdf

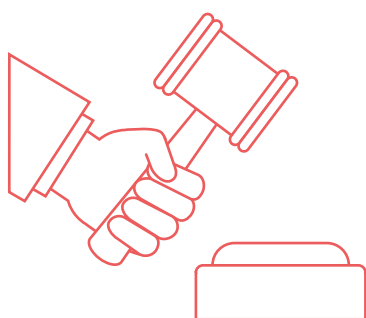
⁵ Mean comments online are often disregarded and accepted, even used as a source of entertainment. Late night talk shows use 'Mean Tweets' as a part of their regular show agenda.

⁶ <http://www.abc.net.au/news/2016-02-10/twitter-announces-trust-safety-council-deal-with-cyber-bullying/7155894>

⁷ Taken from Securly's Managing Screenshot, The Student's Perspective An International Study. We surveyed over 400 students from across the US and UK on topic of digital citizenship, web filtering, and cyberbullying.

Recent events have officials debating the First Amendment right to free speech versus the criminality of cyberbullying:

Case #1



In June 2016, the [North Carolina Supreme Court](#) struck down the 2009-enacted cyberbullying law: one prohibiting the use of computers to post –or maliciously encourage others to post– compromising information online.

The court reevaluated this law after an appeal by formerly convicted teen, Robert Bishop. Ultimately, the court agreed with defendant Bishop, claiming the law to be too broad and a violation of free speech.

The ruling Justice explained his decision, suggesting that the law could potentially “criminalize behavior that a robust contemporary society must tolerate because of the First Amendment, even if we do not approve of the behavior”.

Case #2



“... verbal conduct can never overcome a person’s willpower to live, and therefore cannot be the cause of suicide...” Again, this attempts to draw protection from the First Amendment.

[Massachusetts teen Michelle Carter](#) is now charged with manslaughter after a two-year debate about her role in a friend’s suicide. Through text messaging, she pushed her friend to follow through with his planned suicide, even telling him to get back in the carbon monoxide-filled car.

Using the above argument, her lawyer tried save her from 20 years prison time. The court disagreed, and countered: “It was apparent that the defendant understood the repercussions of her role in the victim’s death. Prior to his death, the defendant sought (apparently unsuccessfully) to have the victim delete the text messages between the two”.

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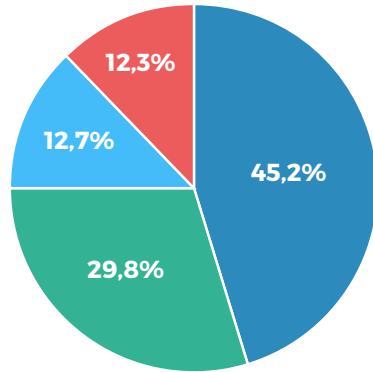
The majority of negative posts can be categorized into four categories:

1. Namecalling/Harassment
2. Relationship Drama
3. Body Image/Looks
4. Threats



30% of flagged posts are direct forms of cyberbullying. Interestingly, about 1/3 of all students have experienced cyberbullying.⁸

Cyberbullying Topic Distribution



- Namecalling/Harassment
- Relationship Drama
- Body Image/Looks
- Threats

ACTUAL STUDENT POSTS:

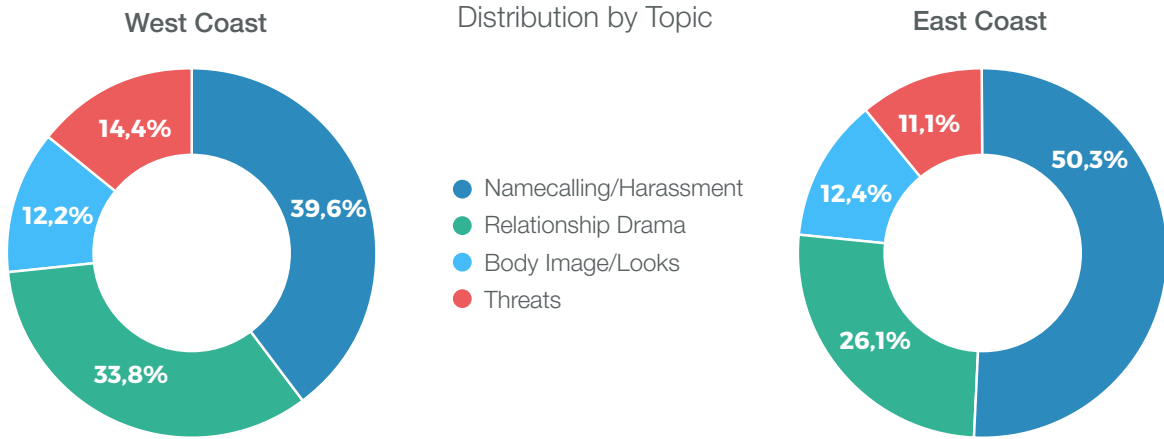
“when you want to cry and slit your wrist because all you get in life by most people is you ugly slut cunt whore told to go kill yourself and you just hold it in and you at the table with knives within your reach”

“@ [redacted] go kill yourself u freaking bully ima go to your house and burn it to the ground u dont belong here jerk go to hell demon”

“you are blocked because you're a can't understand normal thinking. no i'm not gonna unblock you, and no i'm not gonna let other people be the fucking messenger for your sorry ass. you ruined my friendships. you ruined my everything. so i'm gonna put one thing out there. you know where i live. come fucking box. i dare your dyke lookin ass to step to me. god i wish you would. i'm ready. any god damn time of the day. i don't go to school since you're little melt down got me in trouble. see you then bitch. sincerely ms. [redacted] the person you've been pussy-footin around since you fucked me over.”

⁸ Ibid.

Breakdown by Coasts: Student posts from the East Coast are far more aggressive and confrontational on social media. From our data, the two-word key phrase “you are” (indication of direct address) is far more frequently used in the East Coast posts, as well as the frequent occurrence of “hoe”.



A [study](#) featured on iKeepSafe likened cyberbullying to road rage: both the keyboard and the car provide refuge and anonymity for aggressive behavior. This “sense of detachment seems to empower people to do and say things they never would do in person”.

The following comments reinforce the seriousness of bullying, depression, and suicide **as recognized by the students themselves***.

"people say 'go kill yourself' like it's a joke. swearing at someone, pointing out all their faults, and telling them they should overdose and slit their wrists, isn't funny. what if they did? what if that girl you just messaged, actually does kill herself? would you care then, or would it still be 'just a joke'."

"here's the thing... you think bullying is okay? do you think calling someone stupid, dumb, anorexic, and a fat ass is the right ~~shit~~? you're just a mf ass bc all you know is negativity you never know when that person has had enough nor when that person just needed the right amount of negativity to go ahead and say i want to end my life. believe it or not i have been there done that. jus stop that ~~shit~~ honestly. all of the girls here on facebook and out are beautiful and brave and amazing. i don't see any ~~fucking~~ flaw with you guys so stop the bs and fucking be yourself don't change for anyone. i'm not saying this just because one of my best friends decided that her life was over and she killed herself ...and you know what, i'm the one suffering here, not those bullies' smart mouths."

***Actual student posts**

Conclusion:

Leave social media open,
it's your tool.

As devices are sent home with students, Administrators must choose between two extremes: 1) completely block social media or 2) leave it unfiltered. The former approach sweeps the real problem under the rug as kids will then use their personal (unmonitored) devices to vent negative emotions. The latter approach leaves the school open to liability.

Based on the findings of this study, we feel that leaving social media open for grades 9-12 in concert with the following approaches constitute a well considered middle-ground:

- 1) The use of Digital Citizenship curricula provided by [Common Sense Media](#) and others.
- 2) The use of technologies that enable the real time detection of cyberbullying and declarations of self-harm.

