Semantic Analysis of Gender Based Violence Against Women

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Abstract: Violence against women has become a grave concern not only in India but around the globe. From domestic abuse to being attacked out in the open, there's been a recurring enormity against women, which has jeopardized their basic right to safety. Having a safety net might seem a sense of relief. In the 21st century there's an application available for pretty much anything. Personal safety apps have attracted a lot of engrossment, but they have not been effective in preventing rape. As standalone initiatives, many involved in preventing violence also state that they have not proven useful. In this paper our objective was to better understand and find out the underlying causes of why we aren't able to combat sexual violence issue. We tried to apply a novel approach to predict sentiment for different Twitter datasets trying to forebode what type of tweets receive particularly high attention and engagement and the sentiments associated along with it. In doing so, we could comprehend the sentiments and emotions tagged along. This will better potential reach future social media movements by understanding what content is likely to reach the most people. We examined over 10,000 tweets with the #metoo tag. In a nutshell we will be assessing the causes/ factors /reasons why the victims attain help even after such helps available for them. The study will anticipate at why the audience is not aware of such helps made available for them. After all, to root out crime is clear sighted not possible, though knowing more about the underlying factors on why it occurs and about why there is increases in reports in India is significant in order to dwindle it.

Keywords: metoo, sexual violence, twitter, technology, text mining, machine learning, sentiment analysis

Introduction

India is a long-established male-dominated country where women have to face various violence in the society. As the world is moving forward in the technological improvement, advancement of material prosperity, etc; the increased rate of violence with women is also on the way. Rapes and brutal murders have been so common now-a-days. Other violence like harassment, assault, and chain-snatching, etc have also become a practice. Throughout history, "Technology" has been the driving force of change. From mobility to television, to the Internet, technology has snuggled and incorporated into our daily most research that has been made on violence against women in India has been conducted either by looking at already existing statistics and surveys or by conducting own surveys. In those studies the aim has been to find out the prevalence of violence, or identify factors for violence against women, or the characteristics of women that place them as targets for violence lives[1].

One of the criticisms is that while these apps might make women feel safer, in reality they simply act as a pacifier. They don't take into account the logistics of real-life dangerous situations in which rape can occur. For one, when confronted by an attacker, women are not always in a position to reach for their phone. While most women are even unaware of the help available for them, wherein some who are aware see no ray of hope. Also, major issue is that rape often takes place in secluded areas facing signals issues. While surveying one thing really hit me hard when asked the market as to what new features would they like to see in a application, the answers weren't really new features rather they said it should actually Prove helpful in panic situation. The weak system behind the scenes is the major cause of failure of these helps available. The unfriendly process of law has kept most distressed women away from the law and courts**.[8,15].** Victimized women have various experiences with the national criminal justice systems. They cannot always depend on the criminal justice system for either protection or rehabilitation. There's an Education challenge and a public culture challenge. Even if facing all the hurdles the women sometimes do come forward to report sexual assault the sad truth of our society is that they aren't always believed. But now women do not keep hush-hush and come up straight to report rape or speak up to know the magnitude of the problem.

Literature Review

India, a nation which had Mahatma Gandhi as its idol of rectitude became so unbelievably violent and corrupt that the women can no longer be safe within their bodies. Gandhi who defeated the whites to save the browns by relying on non-violence , but his beliefs are being betrayed so easily that**[1,13]**"A woman is raped **every twenty minutes** in the world's largest democracy and even **children of five years** are subjected to rape**[2,17]**
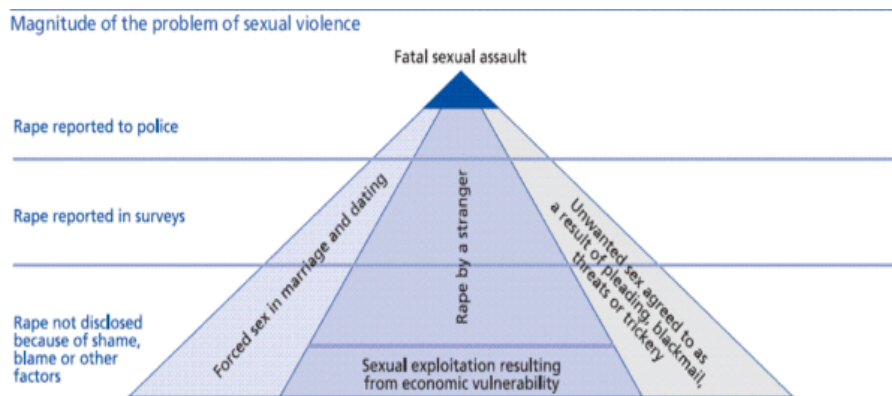
Figure1. Sexual assault cases and causes (Source: wikipedia.org/Sexual_violence)
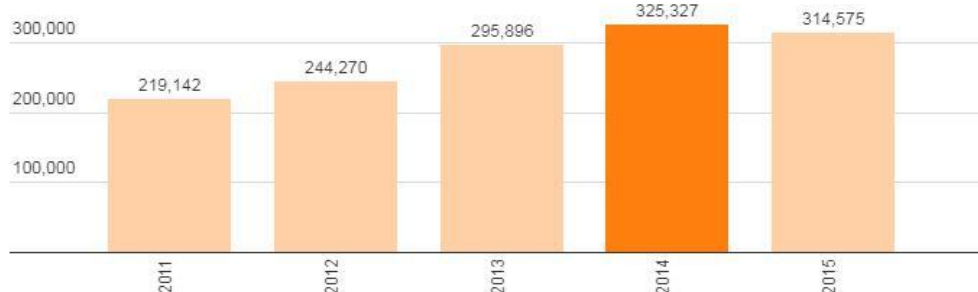
To help women feel secure there were some applications developed in the twenty-first-century. To as to lend women a helping hand many NGOs too are breaking the mould with novel ideas. One such NGO is SNEHA data collected from July to December last year by SNEHA showed that of the 345 cases analyzed, only 19% were reported to the police.[3,8]

Several studies have been guided by the same framework when conducting their studies, using an ecological framework established by Heise (1998) that looks at individual, relationship and household level to detect a possible association between (sexual) violence and factors operating at these levels. But it is also apparent that there is a divide in the debate,between those that focus more at structural inequalities and individual dynamics, and those who look more at patriarchal causes for violence against women.[4](The Indian Express, 2016)India's Minister of Communications and Information Technology, Ravi Shankar Prasad, announced that all mobile phones must include a "Panic button by 2017 and GPS by 2018". [5,6,18]

This move is just one of many recent tech-driven government initiatives launched to enhance the safety of women in light of growing concerns about sexual violence in India.And even on the other hand, "Most Crimes are against SC Women: (NCRB Data)"[6] Are they even well aware of issues they don't even have the appropriate awareness about abuse and violence, and systematic education which is required.There is an urgent need for more studies on this violence so that the psychology of the violators is better understood. Instances of violence need to be thoroughly investigated, and ways and means devised to reduce their incidence. There is need for quick and severe punishment for the accused,which would act as a deterrent too. Any society, in which half the population is not assured of safety, needs to reconsider its claim to being civilized [10,16,17]

Figure 2. Cases of Sexual Assault (source:http://snehamumbai.org/rape-and-sexual-assault/)

Another such example of silence breaker was #metoo campaign started by Alyssa Milano with the purpose of showing how many people have actually experienced sexual assault. Twitter reports that more than 1.7 million women and men have used the hash tag in 85 countries. **[19,]**

Wikipedia also reported that *The phrase had been used more than 200,000 times by October 15, and tweeted more than 500,000 times by October 16. On Facebook, the hashtag had been used by more than 4.7 million people in 12 million posts during the first 24 hours.* [9]

Load the Twitter authentication and extract tweets using #metoo.$getText())

Having half a million tweets in hand, it is unfeasible to give a summary of what they all contain. One method to give a sense of the most used words is a word cloud.

Figure 3. Word cloud of tweets

We extracted this word cloud from a sample of 10,000 tweets, and all the words which were majorly used and linked with tweets and re tweets appeared on the cloud giving us a run-through.

This paper uses a Rule Based approach, which tries to dig out the emotion or mood of the tweet and classifies the emotion and plots them accordingly to the amount of percentage they have passed down.
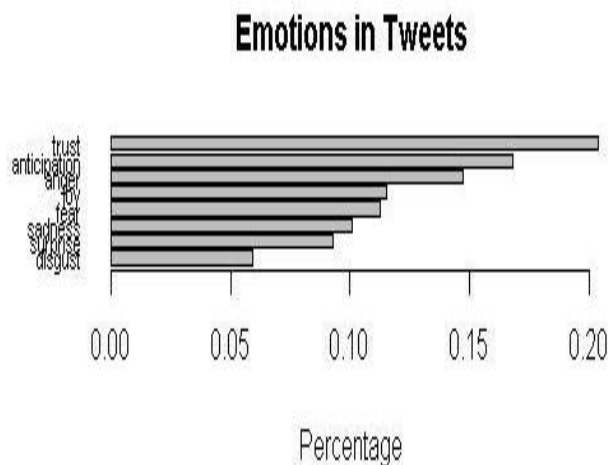

Figure 4. Percentage of Emotions in Tweets

By doing so it is possible to understand the deeper levels of emotions that have been associated with the tweets making it extensively useful in research work fields , which otherwise wouldn't have been made possible with huge amount of tweets in hand.

In the first stage, we extract emotion-bearing tweets from a huge number of raw tweets. In the second stage, all the extracted tweets are then classified into well-known emotion classes, namely anger, joy, sad, fear, and trust.
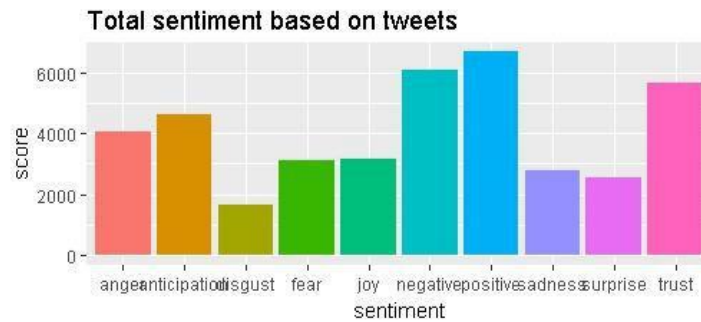
Figure 5. Categorization of tweets based on emotions

Our next graph plots the emotion sentiment to the narrative amount of time being taken. We have assigned a score to emotional sentiments.
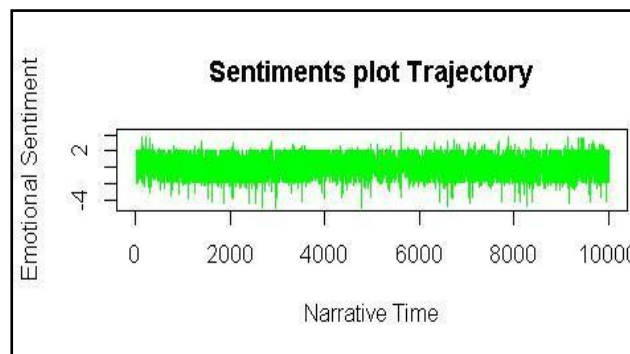

Figure 6. Sentiment Plot Trajectory

Method and Material

The method best suited for our research objective, due to the flexibility was making various people fill up questionnaire, getting their perspective over such issue. Our second approach was text mining using Rstudio of #metoo analyzing the sentiment portion of the campaign. The material is based on secondary sources from mostly academic articles, research paper's, interviews and case studies available online.

3. Findings and Solutions

Delhi Police Himmat app for women safety failed to serve purpose: Parliamentary panel

The Application was launched by the Delhi Police for women safety, the official police application had only 30,821 registered users in a city with a population of almost 19 million reflects upon the comprehensive failure of this App to function as an SOS helpline for the women," the committee said in its report tabled in the Parliament.

But what seems to be the major failure cause of this great initiative? It is not because people don't have smart cell phones neither
Is it because women are not ready to install the application, The major cause for the failure of the app was "UNAWARENESS".
During the survey the statistics show that 35.2% agree to the fact that they have not been raped while on the other hand when asked that do they know someone who has been sexually assaulted 73.1% said yes. The percentages quite don't match up, reason being that they don't want to accept that they have been sexually assaulted. There is still a social stigma attached to it due to various reasons such as fear of retribution from their abusers, lack of remedies for the victims' situation, fear of skepticism and societal stigmatization.[9]
The blot of being raped make survivors feel that as if they're getting raped all over again.

With the internet increasingly being seen as a public space, this spillover issue of access for women is seen here as well, affecting how women use technology - if they are able to access it at all. This raises important implications for applicability and use of tech based interventions to address issues of sexual violence, especially against women, when most women do not have access to such solutions.

The World Wide Web Foundation states that only 17% of women in India are connected to the internet. The gender gap in ownership of mobile and internet devices is also high: an estimated 28% women own mobile phones as against 43% men, of this, 19% of women who own mobile phones use mobile internet.

For e.g., a woman who does not own a mobile phone cannot use an SOS app or button to reach her closed ones in times of distress or a woman who uses public transport and not app based cab aggregators, cannot provide tracking details of her journey as a means of protection to her family[13].

Such tech based interventions are rendered of no use to those who don't have access to the means required to operate them and if increasingly solutions are tech based, it would mean the exclusion of several women from services designed to build their capacities in addressing sexual violence.

Initiatives meant to create awareness about the positives of technology, especially for women, need to be implemented, at the rural and urban level.

Perception of women as second class citizens and social norms that disallow women freedom to access spaces as they like is a key deterrent to their access to such resources. Education that reduces gender discrimination and paves the way for gender equality is important towards ensuring that access to technology and virtual spaces loses its gendered dimension. Our first and foremost steps towards spread awareness.[7,8]. The user enters five emergency contacts for the app to contact in case of distress. The app also alerts emergency services for help like, a sos button on handset or sensitive touch activated so that when it's pressed for three seconds or longer, it will emit a loud alarm while also texting your location to your prior chosen emergency contacts. Promulgate martial arts tips to registered users and tips on how to safeguard themselves in panic situations.

Can technology step in where institutions have failed? When our usual safeguarding systems aren't doing their job, it's time to find more innovative solutions. But can tech alone really impact on such a deeply-ingrained problem? Technology based interventions need to build in features that allow for those without access or with limited access to use their services through alternate means, for e.g., by way of missed calls, text messages or helpline numbers accessible through public phones.

Conclusion

"In a group of 150 people, some are sleeping, some are saying India is modernizing and forgetting its culture and these girls are wild whereas some might side and sympathize with the girls. But if in this class of 150 people, even if 15 or 20 try to understand what we're talking about, then 15 or 20 lamps will light. If you reach 20 people in a class of 100, there will be change."

Our challenge, then, is to take all these amazing tools and opportunities and convert them into real policy action to move ever closer to a future free of violence and abuse.

Breaking the cycle of abuse will require concerted collaboration and action between governmental and non-governmental actors including educators, health-care authorities, legislators, the judiciary and the mass media. Education of both men and women will lead to change in attitudes and perceptions. It is not easy to eradicate deep seated cultural value or alter traditions that perpetuate discrimination.

In the final analysis, we came to a perspective that gender violence is a violation of human rights that needs to be combated more strongly by both men and women who believe in justice for all citizens irrespective of their class, caste, racial, religious and ethnic backgrounds. It is a mammoth task. We are just doing bits and pieces. A way ahead is obscure but in our sphere with concrete and pronounced steps.

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