

# Privacy and Security in Online Social Media

---

Course on NPTEL

NOC21-CS28

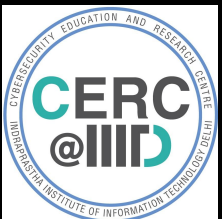
Week 5.2

Ponnurangam Kumaraguru (“PK”)

Full Professor

ACM Distinguished Speaker

fb/ponnurangam.kumaraguru, @ponguru



# Objective of Study

*Whether OSN can support police to get actionable information about crime and residents' opinion about policing activities in urban cities of India.*





Social Networks for Police n Residents in  
India: Ex  
Crime R



Our paper on Bangalore City Police FB page receives best paper award in the US  
[precog.iiitd.edu.in/Publications\\_f...](http://precog.iiitd.edu.in/Publications_f...) @CPBlr  
 @goyal\_abhei @niharikasachdev



RETWEETS  
15

FAVORITES  
15



3:45 AM - 1 Jun 2015 

Safety is a concern for many in multiple ways with concerns. Positive interactions in developing countries, regional Networks (OSN) such solutions. In this study, we OSN contain actionable intelligence safety concerns and how to police. For this, we analyzed Facebook page of Bangalore one month. Our results show (drunkards, illegal construction and thefts. In addition to crime on residents' satisfaction as residents use police Facebook police. Police response to knowledge, reply, and follow most residents' post and he can help solve the issue. Police to interact with residents. Information, OSN can help us and develop mutual account

Community safety; Police; Online social networks;

**Categories and Sub**  
H.5.3 [Information interfa  
and Organization Interfaces  
supported cooperative work

Permission to make digital or print copies of this work for personal or classroom use is granted by copyright owner(s) and is made on the condition that the fee of \$10.00 per copy is paid directly to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923. This notice does not extend to multiple copying for promotional or commercial purposes. [www.copyright.com](http://www.copyright.com)

with the situation at hand) is available on OSN for police and b) how residents use OSN to express fear of being victimized, policing needs, and police performance in developing countries such as India. We study Facebook as it is considerably popular and most used OSN in comparison to other social networks in India [23]. In this study, we analyze 255 posts and 1,600 comments from residents on Facebook page of Bangalore City Police (BCP) in India.

Bangalore City Police was established in 1963 and is responsible for the overall policing in the Bangalore city. Bangalore police

## 'Social media a great tool for crime prevention'

2015 Year Of  
[www.tourism](http://www.tourism)

K.V. ADITYA

[Like](#) [Share](#)

*This is outco*

The city police

Most posts by  
neighbourhood  
said a study of

The study, 'So  
Crime Prevent  
Indraprastha  
city police as a

The study ana  
posts from cit  
cops about eve  
that most of th

The study found that if there was lack of information, police requested for more information and was provided in 29 follow-up posts. An analysis of the response of the BCP to the posts by residents reveals that cops have replied to 172 posts with an action-taken report on Facebook. The average response time was found to be over 30 hours.

Jun 08 2015 : The Economic Times (Bangalore)

# Study on City Police's Social Media Use Bags US Varsity Award

Bharath Joshi

**Bengaluru**

**A paper presented by researchers with a Delhi institute shows how social media networks have forced the police become more accountable**

The city police's impressive social media visibility caught the attention of participants at an academic event as far a place as the Arizona State University in the US last week.

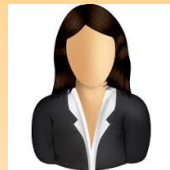
It was an international conference on digital government research, where technology researchers Niharika Sachdeva and Ponnurangam Kumaraguru from the Indraprastha Institute of Information Technology, Delhi (IIIT-Delhi), walked away with the award for producing the best research paper. The paper showed how social networks have forced the police in India to be come more accountable.

This was also the first time the Bengaluru police experiment with the social media to promote community policing made its way into an academic institution.

# Methodology: Data Collection



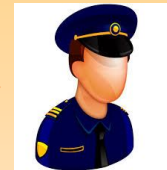
Collected public posts, 21 July - 21 Aug 2014



Filtered



Posts &  
Comments



1600  
comments on  
255 posts

Filtered = Posts from citizens to Police

# Methodology: Data Coding

## ● Thematic Inductive Analysis

24 categories (Public)

Content

- Missing: Missing people complains
- Query: Ask how to get police assistance
- Traffic: Report Traffic menace on roads

Style

- Formal
- Informal

2 Categories (both)

Type

- Acknowledge to: Like or say thanks
- Reply to: Suggest a solution
- Follow-up by: Ask for further details
- Ignored by: No reply

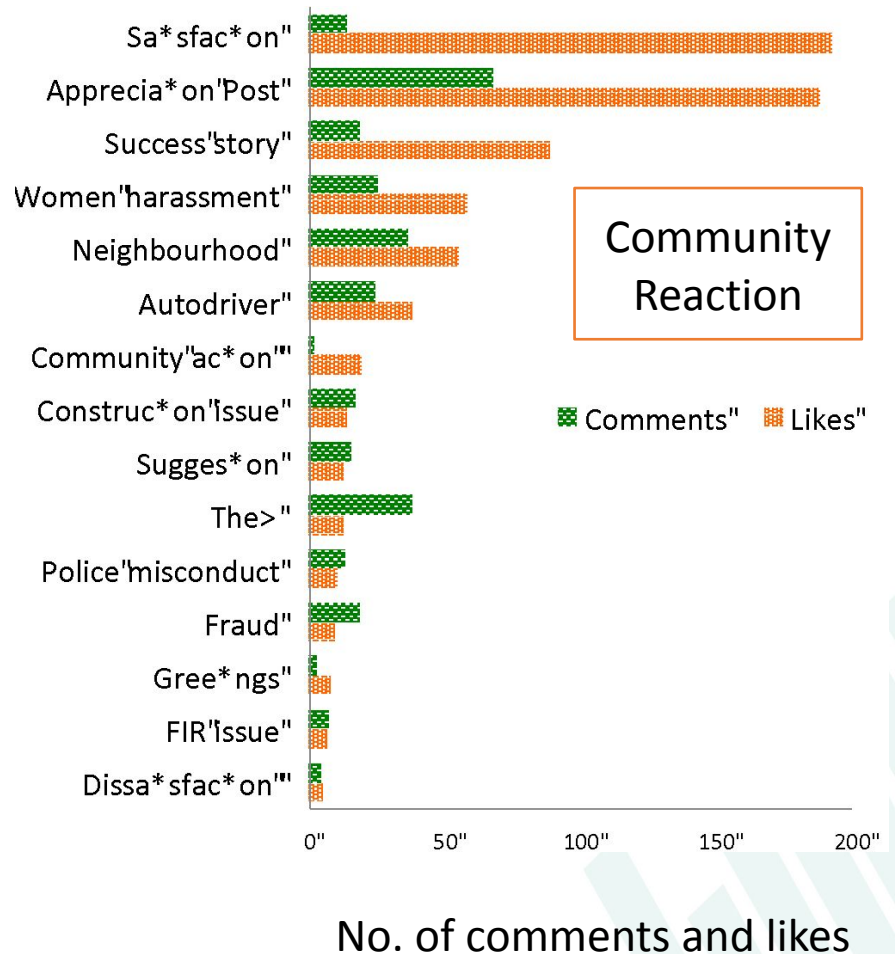
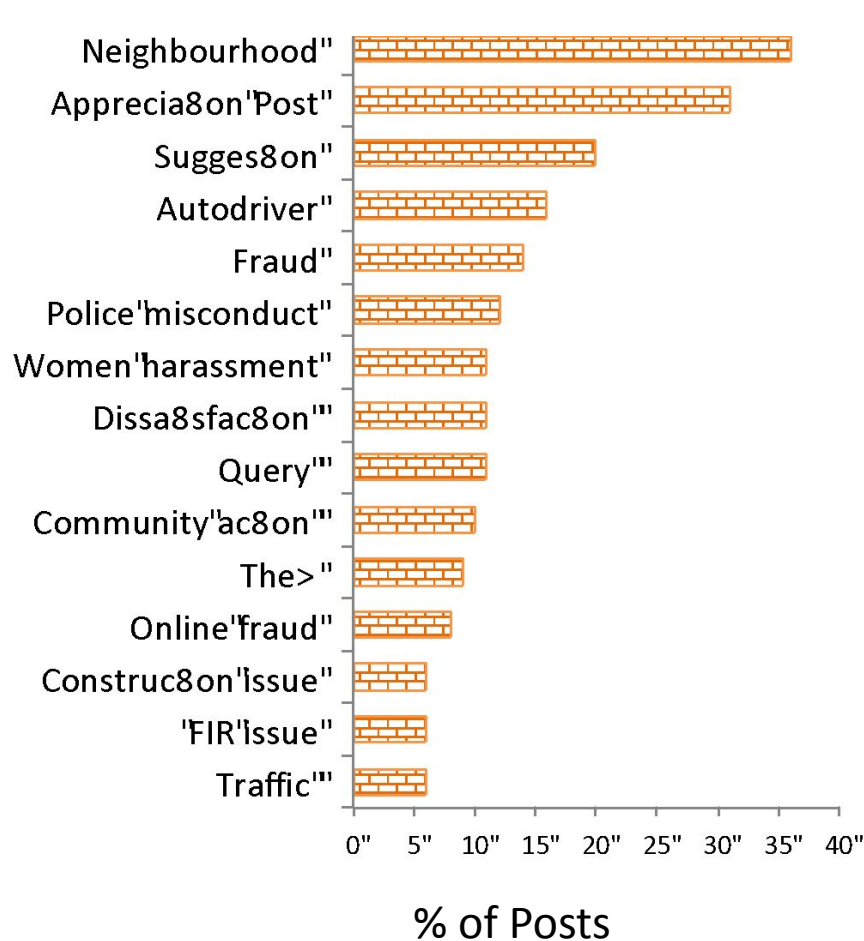
4 Categories (police)

## ● Lexical analysis using word trees



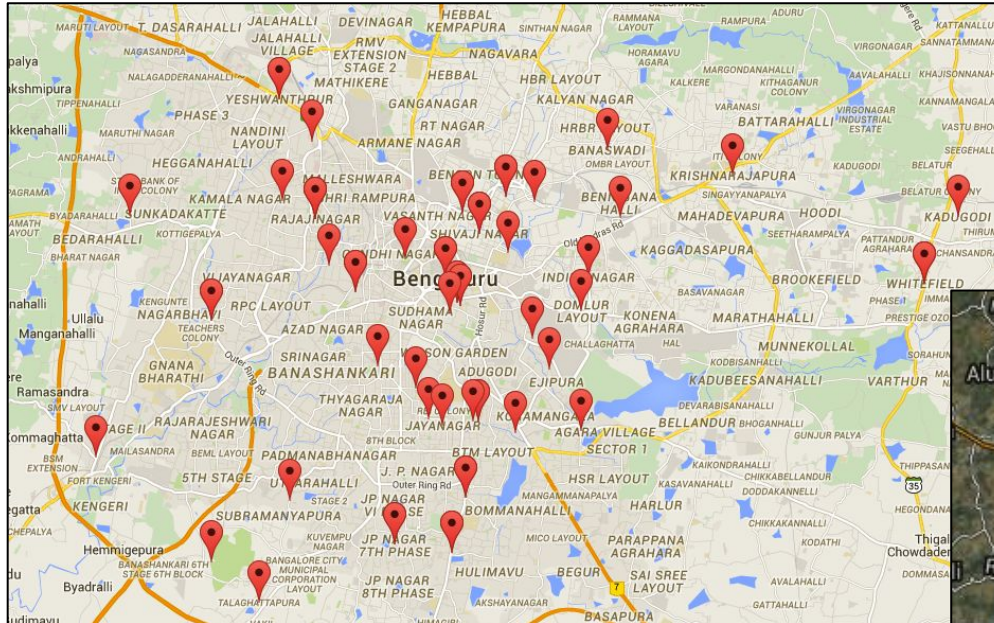
# Results

## ● Know persistent, direct, and apparent concerns

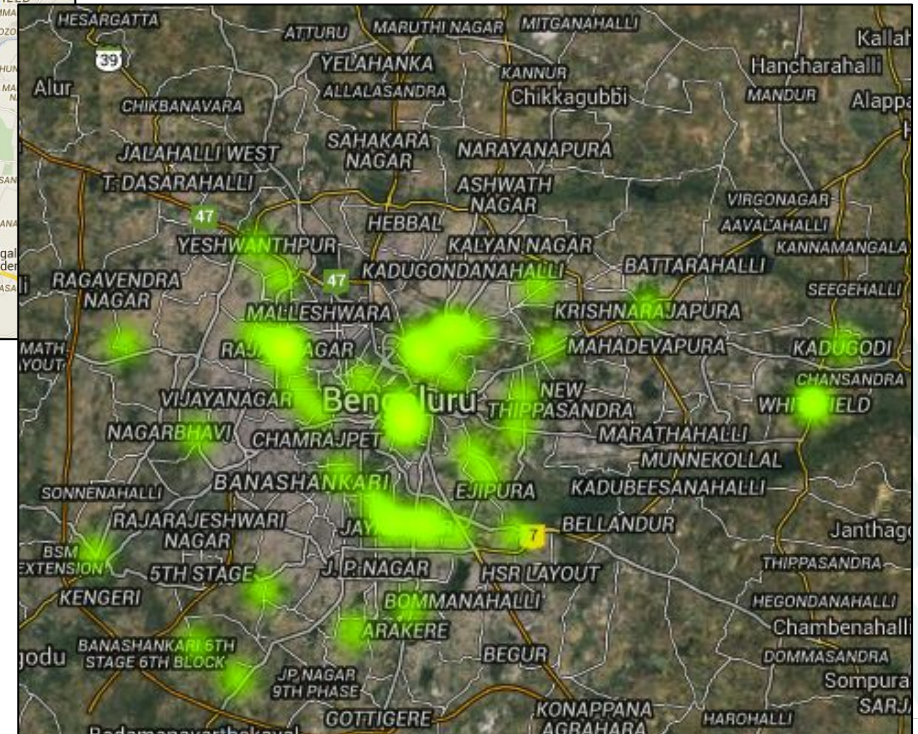


# Actionable Information

## ● Spatial Data



Unique Places



Intensity of complains



# Actionable Information

---

## ● Temporal data



**Saturday evening.**

**“Time – between 5.30 pm and 6pm.** Location: The circle between Freedom Park and the route that goes into Cubbon Park, towards Century Club. Not a single police posted here. I was waiting for an auto at the circle and these two guys rode by asking if they could drop me. . . . Please ensure there are police put here for safety ...”

# Communication Style



Formal: 68

Informal: 187

*"Dear Sir, Request to take action on Railway Station parking contractors they are not issuing parking slips . . . today @Yashwantpur Railway Station Tumkur Roadside Entrance Parking."*

*Kudos to the Banasawadi Traffic Police Team. My Salute and sincere thanks to the Banasawadi Traffic Inspector XXX. . . . An ANGEL in disguise*



Always formal

Instrumental  
Approach

*Dear XXX, Please provide the exact landmark..Thank you."*

Facebook can become an efficient instrument that help police always stay visible and connected with residents.

# Response Time

---

	<b>Time Taken to Respond</b>
Average time	30.53 hours
Maximum time	211.16 hours
Minimum time	4 minutes
Std. dev	41.26 hours

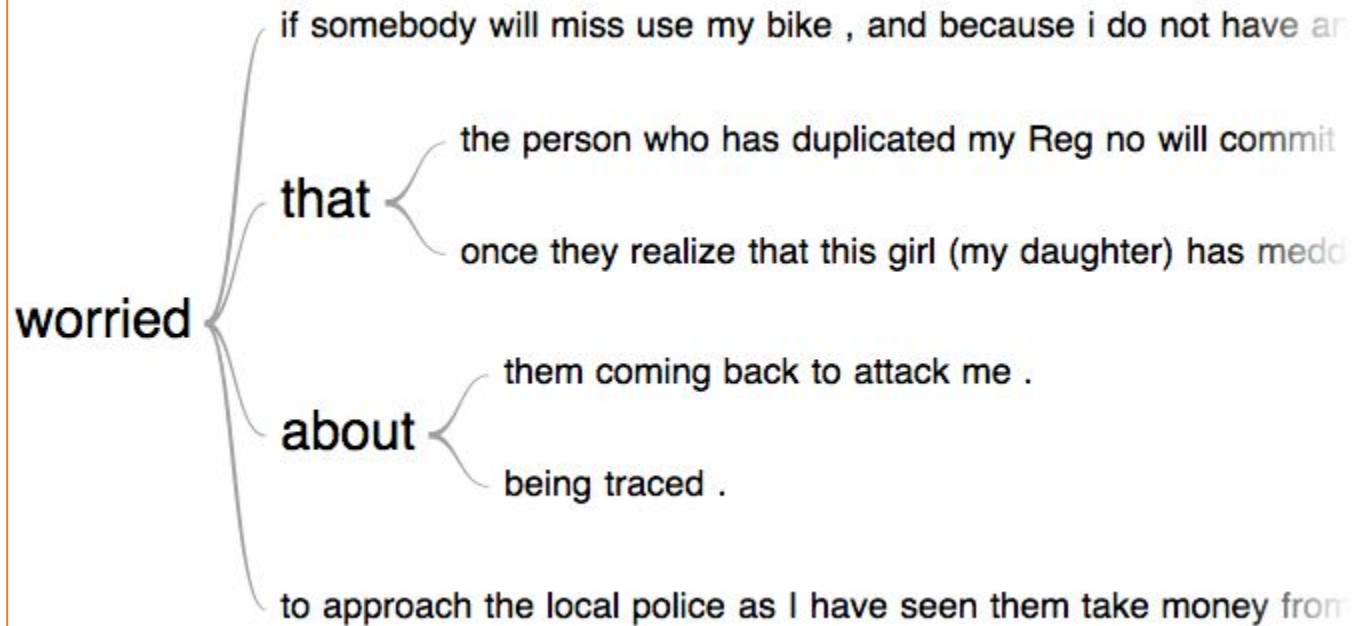
# Engagement Type



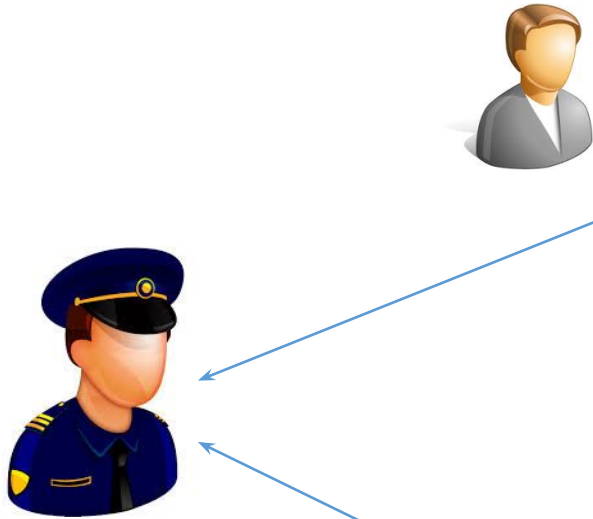


# Understanding Victimization

Word	#
Fear	7
Worried	6
Concerned	8
Notice of	13
Issue	22
Trouble	4



# Direct v/s Indirect



**My Vehicle** KA-02-HW-3183 white color Honda Dio was stolen from Kadamba Hotel (Near Modi Hospital), RajajiNagar on Friday (25th July) evening between 6:30-7:45PM. Please help in tracing my vehicle.

**Dear BCP, though I stay at JP Nagar, but being part of KSFC Layout RWA (Banaswadi Police station) , I got to know that there are frequent problem at KSFC Layout near BBMP Hall . . . 8-10 youths were creating a public nuisance > (shouting, boozing, manhandling, etc.) yesterday i.e. on 27/7/14, Sunday night 9 pm. We need your support to help avoid a molestation scenario at KSFC Layout. Thank you**

# Accountability

**CITY POLICE** ✓  
July 22, 2014 · Bangalore · 🌐

Dear Commissioner of Police,

After all these rapes, molestations and kidnap vehicles with tinted cars, how is it that we can and especially school buses plying around with curtains inside that block the windows? Does the criminals? Why arent all the constables and drivers of tinted or curtained vehicles like cars

Like · Comment · Share

👍 2 people like this.



Write a comment...

**BENGALURU CITY POLICE** ✓  
forwarded to Addl. Commissioner of Police - T on this..Thank you.  
Like · Reply · 👍 1 · July 23, 2014 at 4:34pm



highly appreciated! thank you!

Like · July 23, 2014 at 6:27pm · Edited



Write a reply...

Write a reply...

**BENGALURU CITY POLICE** ✓  
August 19, 2014 · 🌐

It is the duty of every citizen to keep a watch around his surroundings, be cautious of isolated and dark places, and to inform the police of anything wrong going on and not keep mum about it or scared about it, and ensure that the citizen helps the police in their act of keeping the society and the city safe. After all, Bangalore is our city, our pride. Our support to Bangalore Police in its endeavor to bring the notorious criminals, anti-social elements, and wrong-doers to book should always be continuous just as the efforts of the Police Officers who sacrifice their family time, personal leisure for the sake of us all. It is because of them that we are safe. Respect and Salute to the Police Department.

Like · Comment · Share

👍 BENGALURU CITY POLICE likes this.



Write a comment...

Mutual Accountability

# Accountability

- Police responds and allows itself to be held accountable
  - Maintains formal communication style even for frustrated people

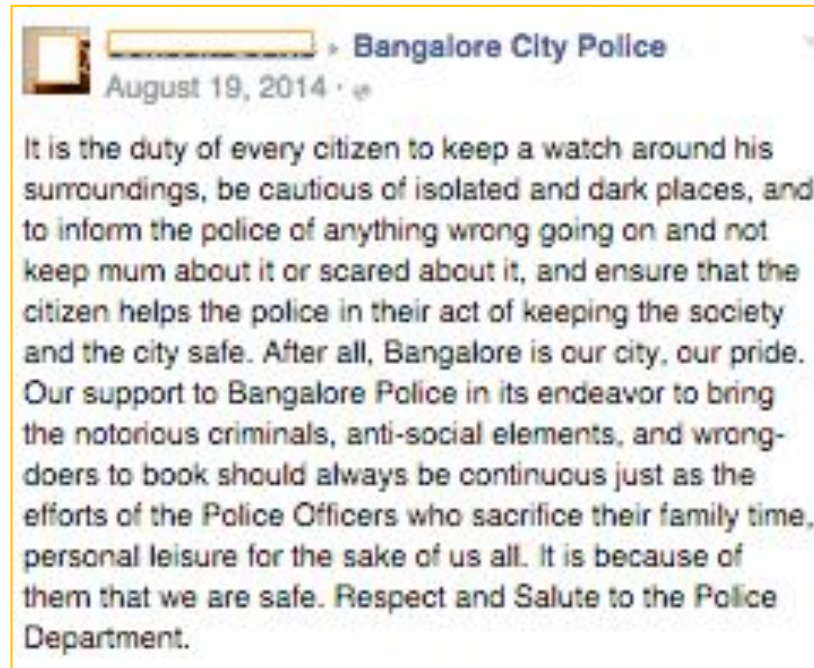




# Accountability

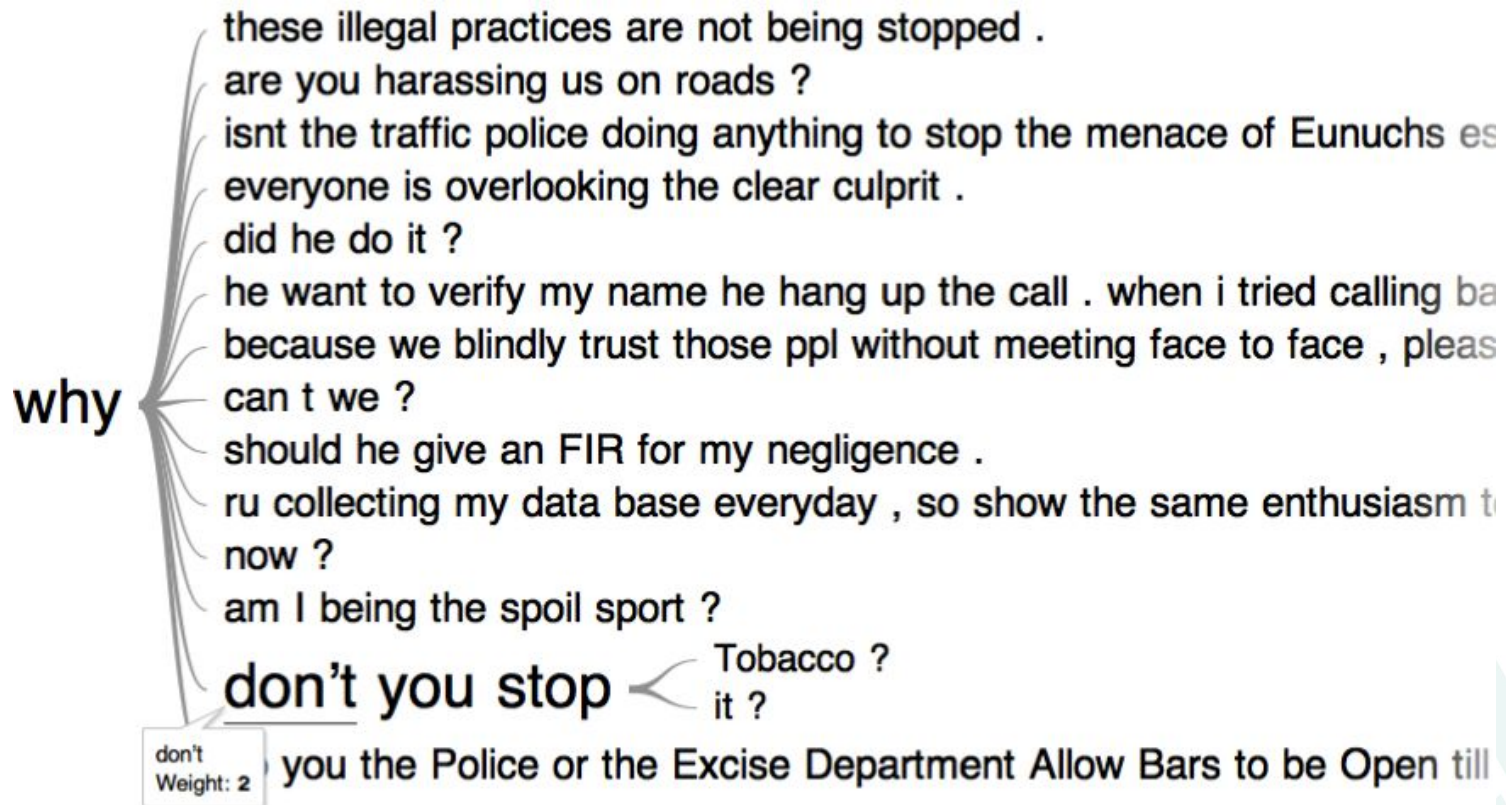
---

- Citizens accept that they are also accountable to make city safe



# Accountability

- Citizen hold police accountable



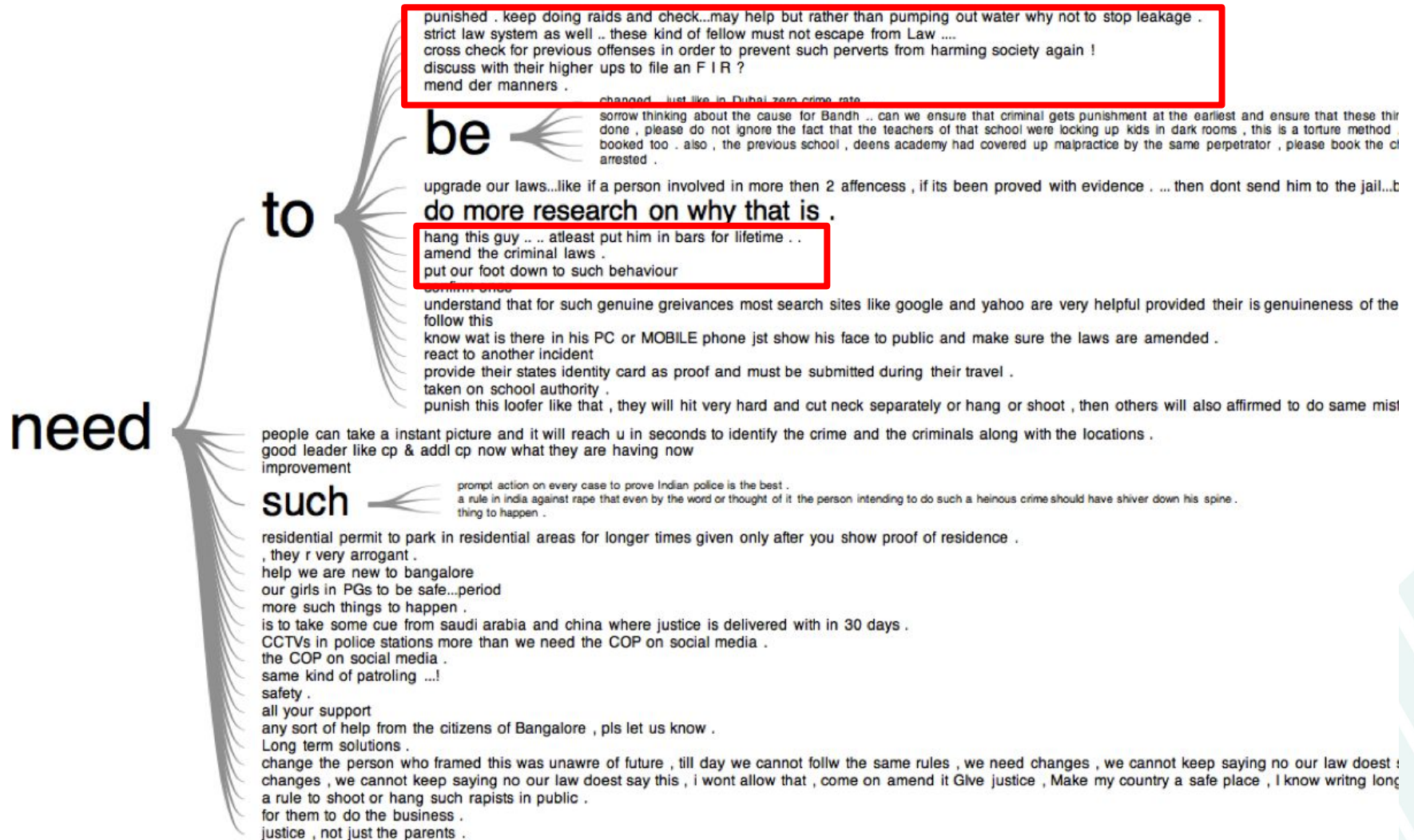
Word Tree visualizations of posts in which residents questioned police using the word *why*.

# Understanding Needs / Wants

---

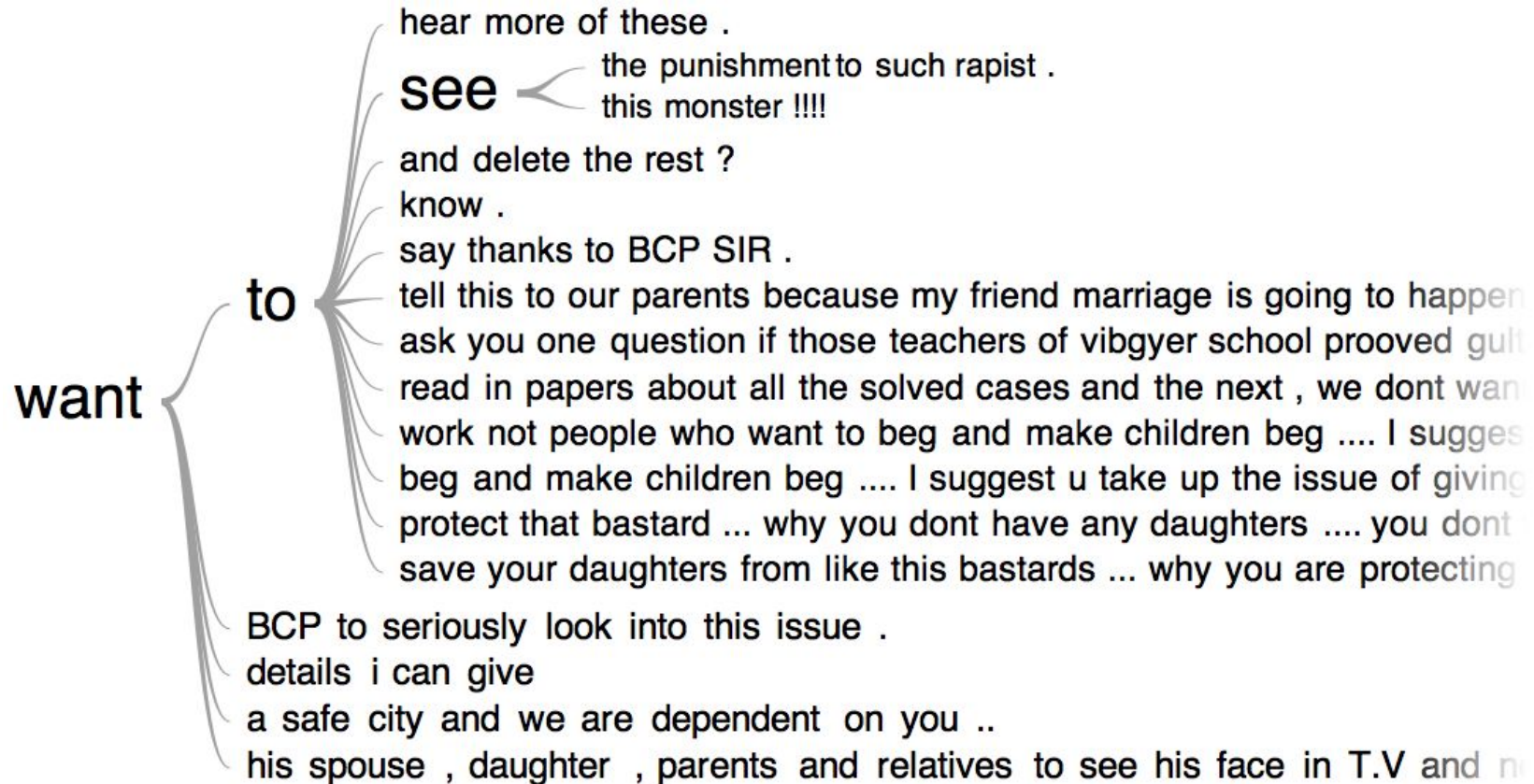
- Police can encounter fear and anxiety if they know:
  - residents expectations like needs and wants
  - Expectations, if met, can increase feeling of safety

# Understanding Needs





# Understanding Wants



# Discussion: The way forward

---

- Observable OSN for Actionable Information and Collective Action
  - Tools to mark posts as follow-up, reply etc. does not exist
- OSN for Mutual Accountability
  - Much needed for overworked departments
- Understanding fear and Victimization effects

# Thank you

[pk@iiitd.ac.in](mailto:pk@iiitd.ac.in)

precog.iiitd.edu.in

fb/ponnurangam.kumaraguru