Police Officer Use of Force

Final Project Proposal, IPPP

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# Problems

## Problem 1

It has been estimated that over the course of a year, 8-9% of officers are reported for involvement in an adverse event like deadly use of force (UF) with a civilian (Carton et al., 2016), and police departments are aware of this issue. One survey reported that 65% of polled departments with 250 or more officers attempted to predict officer UF risk with data-driven systems (Law Enforcement Management and Administrative Statistics, 2007, in Shjarback, 2015). Many of these reference three broad categories of data: officer characteristics (e.g. years of experience and race), situational factors (such as type of call), and neighborhood factors (such as socioeconomic status) (Carton et al., 2016). However, application of big data methods to sociological questions increasingly demonstrates that the relationships between these categories and UF is nuanced and may involve variables not frequently studied in these contexts (Carton et al., 2016; Ray, 2017). For instance, although there is a vast literature on the power of social influence over individuals’ behavior (Calvó-Armengol & Jackson, 2010; Simpson & Willer, 2015), there has been little exploration of the effects of officers’ social interactions and social networks on UF risk. With this in mind, we propose to examine relationships between the social connectivity within police departments and UF in order to shed light on additional forces that may modulate UF risk.

## Problem 2

We are also interested in how the perception of a suspect’s mental health influences officer UF. As many as 6-10% of suspects encountered by police have a serious mental illness. It has been argued that they may elicit unique responses from officers because they are perceived as less predictable and more threatening (Watson, Morabito, Draine, & Ottati, 2008). Because drugs, alcohol, and even transient psychiatric conditions like hysteria produce similar behaviors, it has been estimated that officers may be at heightened risk for UF in as many as 20% of interactions with suspects (Kaminski, DiGiovanni, & Downs, 2004 in Watson et al., 2008). Do the factors that predict UF in encounters with people suspected of mental instability differ from predictors of general UF, and do they map on to UF in behaviorally comparable, yet causally different situations -- like engaging with a drunk or junky?

To augment understanding of the mechanisms that influence officer UF with the goal of contributing to the development of police UF interventions, we ask the following questions:

# Questions

1. How do the social networks of police officers affect officer use-of-force (UF)?
2. Are there unique relationships between predictors of officer UF like years of experience, UF, and victim mental health?

# Methods

We will query data submitted by police departments to the Police Data Initiative which includes over 22 datasets related to UF[[1]](#footnote-1) and over 40 related to general incidents. We have identified four sources of interest that will allow us to address Questions 1 and 2. The Indianapolis Police Department, Austin Police Department, and Bloomington Police Department (BPD) provide datasets that include information on UF and non-UF incidents. Each of these departments as well as the Bedford Police Department provide information on suspect mental health.

A breakdown of the variables relevant to our proposal is included in the [Table 1](#_Table_1:_Officer).

While examining relationships between predictors of UF, UF, and UF specific to suspect mental health can be achieved with regressions, our foray into network analysis will be a learning opportunity! We propose to use a combination of variables to identify officers that likely interact with each other to construct our networks. For instance, the combination of Date Occurred, Area Command, and Officer Organization Description (Austin PD) may be cross-referenced with data from other officers reported for UF in the same dataset. We would assume different levels of association based on these variables. For instance, officers who share an Area Command, Officer Organization Description, and were working on the same date would have greater network connectivity than officers who share only the same Area Command.

These identifying variables may also be cross-referenced with the department’s larger officer population (both UF and non-UF officers). We are seeking access to comparable non-UF data that includes officer characteristics through the Indianapolis, Austin and Bloomington Police Departments. We have already secured the requisite UF data. Part of this project will involve combining UF and general incident datasets.

To query potential relationships between mental health perceptions and UF, we will compare datasets from multiple departments. All of the UF datasets that we have identified have a mental health variable.

# Potential Extensions

Social Network Simulation: Does PD intragroup and intergroup connectivity correlate with Use of Force in departments? It is possible that manipulating officer-officer social networks – such as *changing* the probability of interaction between officers who have UF incidents on their records and those who do not – will demonstrate causal (albeit via simulation) influence of officers’ social networks on UF decisions. To examine this, we may explore network simulation methods (like those detailed in Calvó-Armengol & Jackson, 2010).

Mental Health: Additionally, the Indianapolis Police Department has datasets detailing complaints against officers, and the Bloomington Police Department has datasets on incidents in which an officer was assaulted and incidents in which an officer was formally complained against, and disturbance-related incidents (e.g. drunkenness). These provide us the opportunity to ask if mental health and behaviorally comparable states like drunkenness a) actually do correlate with more danger/threat to the officer and b) are associated with a higher rate of UF than incidents that do not involve perceptions of mental instability/illness.

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| Table 1: Officer Use of Force Incident Datasets | | | | | |
| **Police Department** | **Suspect/Victim Mental Health Variable** | **Officer Demographics** | **Variables for Officer Network Analysis** | **Other/extra (possible extensions)** | **Link to dataset** |
| Indianapolis, IN | ArrestCharges  “Mental Health Writ” | officerAge  officerRace  officerSex | division  “Operations Division”  district  “Northwest District”  shift  “NW Day Shift”  beat  “SW Day Shift 2nd Rc”  occuredDate  8/23/2014 12:00:00 AM | Behavioral Health Services  Complaints against officers: <https://www.projectcomport.org/department/IMPD/complaints/> | Use of Force: <https://www.projectcomport.org/department/IMPD/schema/useofforce/>  General Incident: http://www.indy.gov/eGov/City/DPS/IMPD/Crimes/Crimes%20and%20Incidents/IMPDUCR2014.txt |
| Austin, TX | Subject Conduct Desc  “EDP/MENTALLY UNSTABLE” | Only:  Yrs of Service  Officer  Commission Date | Officer Organization Desc  “GEORGE 600 REG I PATROL  CouncilDistrict  “9”  Area Command  GE  Date Occurred  1/1/2015 12:00:00 AM |  | <https://data.austintexas.gov/Public-Safety/R2R-2015/iydp-s2cf>  Annual Crime Dataset (2015): <https://data.austintexas.gov/Public-Safety/Annual-Crime-Dataset-2015/spbg-9v94>  Incidents (2011): <https://data.austintexas.gov/browse?Additional-Information_Department=Austin+Police+&category=Public+Safety&limitTo=datasets&q=APD%20Incident%20Extract&sortBy=relevance&utf8=%E2%9C%93> |
| Bloomington, IN | Nature  Mental Health  Suspect Condition  Mentally Disturbed | n/a  \*Case Number (might be used to locate officer demographics) | \*scant (not sure how precise data for network analysis is)  District  4  Date  1/1/2016 | How Received  Form of call – how was the officer alerted about the issue  Citizen complaints,  Law Enforcement Officers Assaulted:  <https://data.bloomington.in.gov/group/public-safety> | UF: <https://data.bloomington.in.gov/dataset/use-of-force-data>  Calls for Service: <https://data.bloomington.in.gov/dataset/calls-for-service-data> |
| Bedford, VA | Mental Health Complaint?  X  Effect Mental Order?  X | Age  Sex  Race  Years of Service | n/a | Assisting Officer, I Applic  Partner demographics, if applicable | <http://www.bedfordva.gov/1177/Police-Data> |

References

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1. <https://www.policedatainitiative.org/datasets/use-of-force/> [↑](#footnote-ref-1)