Exploring Filing & Disciplining Discrepancies In The CPDB

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Introduction

The theme of our project is to investigate the discrepancies in the filing of allegations and TRRs as well as the discrepancies in the resulting discipline in the CPDP. The motivation for this project is to uncover why such discrepancies exist in the database. Specifically, we are interested in whether any of these discrepancies indicate potential bias in how incidents are filed and/or how punishments are distributed to officers.

There are two major discrepancies we will be looking into are:
1. The recommended findings/outcomes do not match the final findings/outcomes.
2. An allegation for use of force/excessive force is filed by a civilian but there is no Tactical Response Report (TRR) filed by the officer.

For the first discrepancy, we will look into various correlations between allegations and other aspects of the data. In particular, we are most interested in systemic bias such as that derived from the victim race, community of the incident, and type of allegation. From this lense, the team examines if there is some underlying bias driving this discrepancy.

For the second discrepancy, we are interested in how consistent officers are at filing TRR reports, any victim bias that exists, and whether this consistency is "contagious."

Discrepancy #1: The recommended findings/outcomes do not match the final findings/outcomes.

As discussed in the introduction, the team is looking into several types of potential bias. This section covers each type of bias separately and discusses the major discoveries made for each type of bias.

Allegation Category Bias

It is clear that for most allegations either 1) the recommended finding and final finding are equal or 2) the allegation cannot have their recommended finding or outcome compared because one or both is null. For example, all categories have mismatch rates between final and recommended findings under 2%. This can be seen in Figure 1, which is a table of the allegation category against the relationship between recommended and final finding (pct_less_severe means recommendation is less severe). This trend

continues, yet loosens, for outcomes. This can be seen in Figure 2, which is a table of the allegation category against the relationship between recommended and final outcome (pct_less_severe means recommendation is less severe).

The categories with the highest rates of more severe recommendations than final decisions for both outcomes and findings are (in no particular order): conduct unbecoming (on-duty), drug/alcohol abuse, lockup procedures, operation/personnel violations, supervisory responsibilities, bribery/official corruption, and domestic. These are "internal" behavioral issues, but do not involve officers harming citizens. The team thought it would see a higher rate of mismatch among the issues where officers are interacting and potentially harming citizens, such as within the use of force category. The overall insight is that the Chicago Police Department, which ultimately provides final decisions on findings and outcomes, seems more willing than the investigative actors, who make the initial recommendations on findings and outcomes, to overlook "internal" behavioral misconduct, such as officers engaging in drugs/alcohol and bribery.

	category	pct_equal	pct_less_severe	pct_more_severe	pct_null_final	pct_null_rec	pct_null_both	count
1	False Arrest	81.06	0.02	0.19	0.58	12.17	5.98	9152
2	Domestic	78.46	0.08	0.34	0.08	18.58	2.47	6508
3	Racial Profiling	76.79	0	0	0	14.29	8.93	56
4	Illegal Search	59.71	0	0.07	0.16	37.45	2.6	37586
5	First Amendment	54.55	0	0	0	45.45	0	77
6	Operation/Personnel Violations	47.74	0.12	0.63	0.52	48.65	2.35	78372
7	Lockup Procedures	45.82	0.22	0.58	0.69	49.92	2.77	14389
8	Use Of Force	40.24	0.01	0.19	0.06	58.05	1.45	57626
9	Bribery / Official Corruption	38.26	0.11	1.35	1.35	56.32	2.6	886
10	Supervisory Responsibilities	37.95	0.02	0.69	0.19	60.51	0.64	4809
11	Traffic	37.04	0.1	0.3	0.26	60.46	1.84	8199
12	Verbal Abuse	35	0.03	0.14	0.05	63.16	1.62	13796
13	Drug / Alcohol Abuse	32.12	0	1.09	1.24	62.26	3.28	1370
14	Conduct Unbecoming (Off-Duty)	26.27	0.29	0.79	0.5	70.5	1.65	8381
15	Criminal Misconduct	25.51	0	0.3	0.33	72.28	1.57	6667
16	Excessive Force	0	0	0	0	48.39	51.61	31
17	Money / Property	0	0	0	0	99.44	0.56	358
18	Medical	0	0	0	0	65.79	34.21	38
19	Incident	0	0	0	0	0	100	4
20	Unknown	0	0	0	0	82.67	17.33	75

Figure 1: Allegation Category and Comparison of Recommended Finding to Final Finding

	category	pct_equal	pct_less_severe	pct_more_severe	pct_null_final	pct_null_rec	pct_null_both	count
1	False Arrest	80.95	0.05	0.33	0.46	4.72	13.49	9161
2	Racial Profiling	76.79	0	0	0	0	23.21	56
3	Domestic	76.23	0.31	2.2	0.11	16.27	4.89	6508
4	Illegal Search	59.55	0.05	0.16	0.2	36.18	3.86	37612
5	First Amendment	53.25	0	0	1.3	45.45	0	77
6	Operation/Personnel Violations	45.06	0.95	2.53	0.48	46.73	4.25	78399
7	Lockup Procedures	43.84	1.03	1.88	0.62	47.54	5.1	14404
8	Use Of Force	39.72	0.07	0.63	0.06	55.73	3.78	57626
9	Supervisory Responsibilities	36.55	0.29	2.07	0.08	54.6	6.4	4826
10	Bribery / Official Corruption	36.23	0.34	3.39	1.13	55.08	3.84	886
11	Traffic	36.13	0.34	1	0.23	58.62	3.68	8199
12	Verbal Abuse	34.59	0.14	0.41	0.09	62.21	2.56	13796
13	Criminal Misconduct	23.16	0.43	1.93	0.61	71.37	2.49	6667
14	Drug / Alcohol Abuse	22.12	1.46	9.34	1.53	60.88	4.67	1370
15	Conduct Unbecoming (Off-Duty)	21.78	1.75	3.83	0.51	68.95	3.17	8383
16	Money / Property	0	0	0	0	0	100	358
17	Medical	0	0	0	0	31.58	68.42	38
18	Incident	0	0	0	0	0	100	4
19	Unknown	0	0	0	0	28	72	75
20	Excessive Force	0	0	0	0	16.13	83.87	31

Figure 2: Allegation Category and Comparison of Recommended Outcome to Final Outcome

Victim Race Bias

Beginning with the breakdown of categories recommended findings/outcomes and final findings/outcomes when normalized by victim race, I found that the most notable patterns common to all races to be the following:

1. For each race, the distribution of final findings was very similar to the distribution of recommended final findings. This suggests a high level of matching between recommended and final findings. This is true for outcomes as well (Figures 3,4, 6, and 7).
2. The biggest trend here is that the most common outcome for every race is 'No Action Taken' followed by 'Unknown' (for every race by Native Americans). The rest of the outcomes occupy no more than (and often less than) 20% of the distribution of recommended outcomes for each race. (Figure 6)

When examining the differences between racial groups, a racial dichotomy between {White, Asian/Pacific Islander} and {Black, Hispanic} emerges. This dichotomy is not perfect; however, typically how Asians and Whites are systematically treated seems to be correlated and the same holds true for Blacks and Hispanics. It is not entirely clear what this means from the perspective of bias. From some perspectives, asian and white victims are "treated better" than Blacks and Hispanics. This is evident just from looking at the pie charts of the recommended findings, recommended outcomes, final findings, and final outcomes. Asian and white victims are more likely to have their allegation result in a sustained recommended or final finding compared to blacks and hispanics, with Asians being slightly more likely than Whites and Hispanics being slightly more likely than Black (Figure 3 and 4). Furthermore, the recommended and final outcomes of allegations made by Blacks and Hispanics are less likely to be sustained than allegations made by Whites or Asians (Figure 6, 7).

However, misconduct alleged by white victims is 1.48 times more likely to have a downgrade than an upgrade in severity of findings from recommendation to finalization and misconduct alleged by asians only ever gets findings upgraded in severity between recommendation and finalization. In contrast, misconduct alleged by hispanic victims is only 1.39 times more likely to have a downgrade than an upgrade in finding severity between recommendation and finalization and misconduct alleged by black victims is actually more likely to have an upgrade than an downgrade in severity between recommended and final finding (Figure 5). This could hint that Whites and Asians are treated better by recommendation committees or worse by the CPDB or a combination of both. Thus, it is undetermined which way the bias lies. The dichotomy loosens when observing the relationship between race and the changes of severity in outcomes from recommended to final outcome. While Asian victims are much more likely to see an upgrade in severity of outcome for the officer in their allegation as opposed to a downgrade, Whites, Hispanics, and Blacks are around equally as likely (Figure 8). Note that can be seen in Figure 5 and 8 are tables of race and the relationship between recommended and final finding/outcome respectively, where pct_less_severe means recommendation is less severe than finalization and severity_ratio is the ratio of pct_more_severe to pct_less_severe (i.e. the ratio of downgrades in severity to upgrades in severity)

Overall, it appears that the discrepancies between recommendation and finalization indicate there is a bias linking Asians to Whites and Blacks to Hispanics (albeit not in which direction it lies).
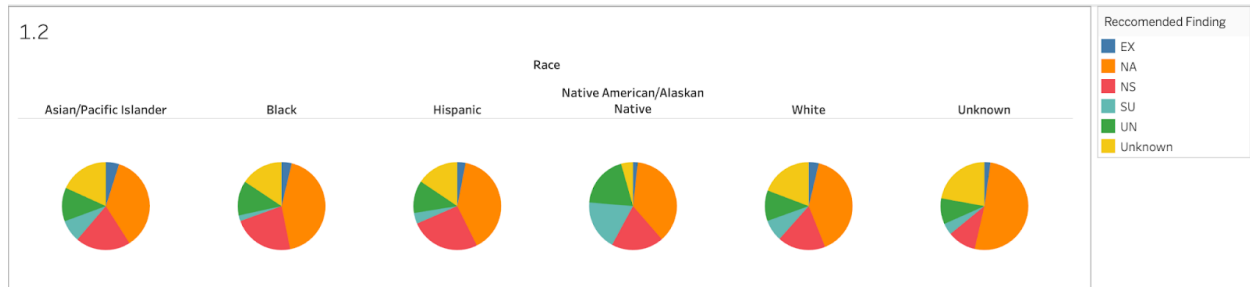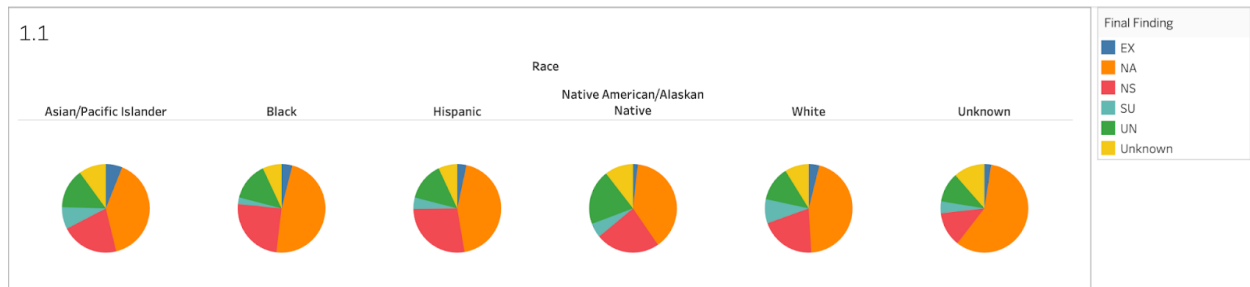

Figure 3: Analysis of Recommended Finding by Race

Figure 4: Analysis of Final Finding By Race

	race	pct_equal	pct_less_severe	pct_more_severe	severity_r... ▼ 1
1	Native American/Alaskan Native	78.95	2.63	5.26	2
2	White	77.69	0.88	1.3	1.48
3	Hispanic	82.14	0.71	0.98	1.39
4	Black	81.81	1.07	1	0.93
5		75.34	0.98	0.84	0.86
6	Asian/Pacific Islander	78.86	0	1.58	<null>

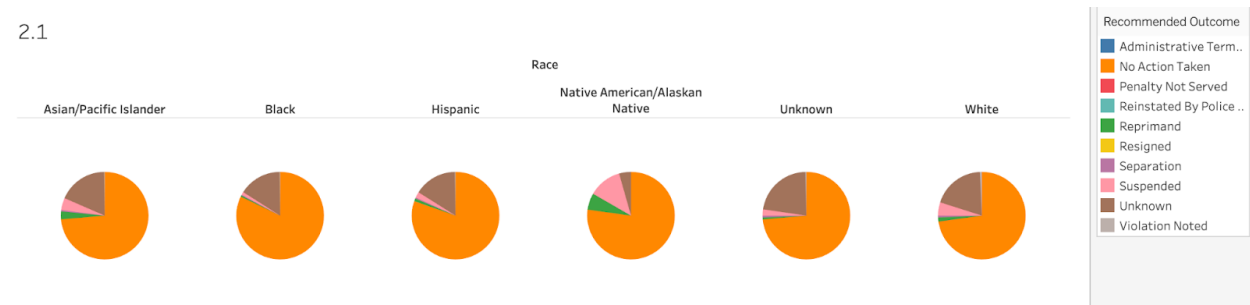Figure 5: Race and Comparison of Recommended Finding to Final Finding

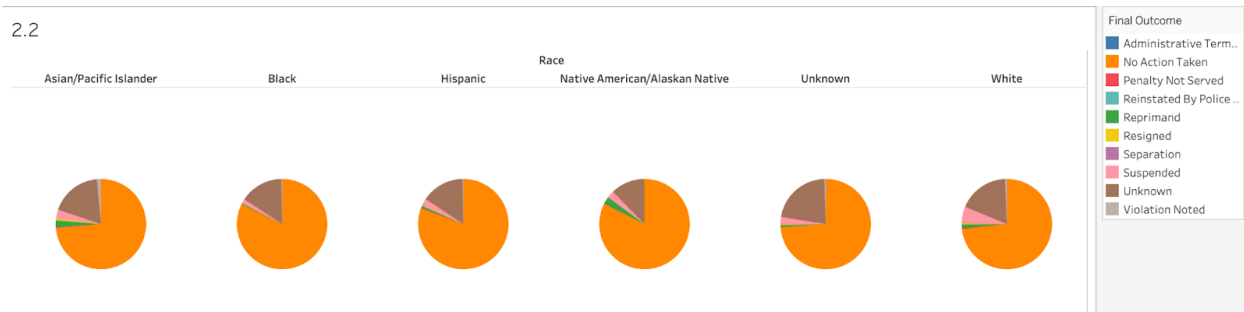Figure 6: Analysis of Recommended Outcome by Race

Figure 7: Analysis of Final Outcome by Race

	race	pct_equal	pct_less_severe	pct_more_se... ▼ 1	severity_ratio
1	Native American/Alaskan Native	79.82	0	7.02	\<null\>
2	Asian/Pacific Islander	75.7	0.49	4.25	8.75
3	White	75.6	0.89	3.26	3.65
4		74.5	0.62	2.03	3.27
5	Hispanic	81.81	0.45	1.49	3.35
6	Black	82.7	0.24	0.92	3.9

Figure 8: Race and Comparison of Recommended Outcome to Final Outcome

Community Bias

There doesn't appear to be as strong of a correlation between community and allegation filing discrepancies; however, some correlation is still present. The CPD in District 1, which contains most of the Loop and South Loop, is much more likely to change the final finding from the recommended finding. Additionally, the CPD in District 14, which is centered around Wicker Park and Bucktown, is much less likely to change the final finding from the recommended finding.(Figure 9). The same is true for outcomes, with some additional districts on the Southwest side that are more likely to have equal recommended and final findings (Figure 10).

Race

All ⌄

Category of Recommendation

All ⌄
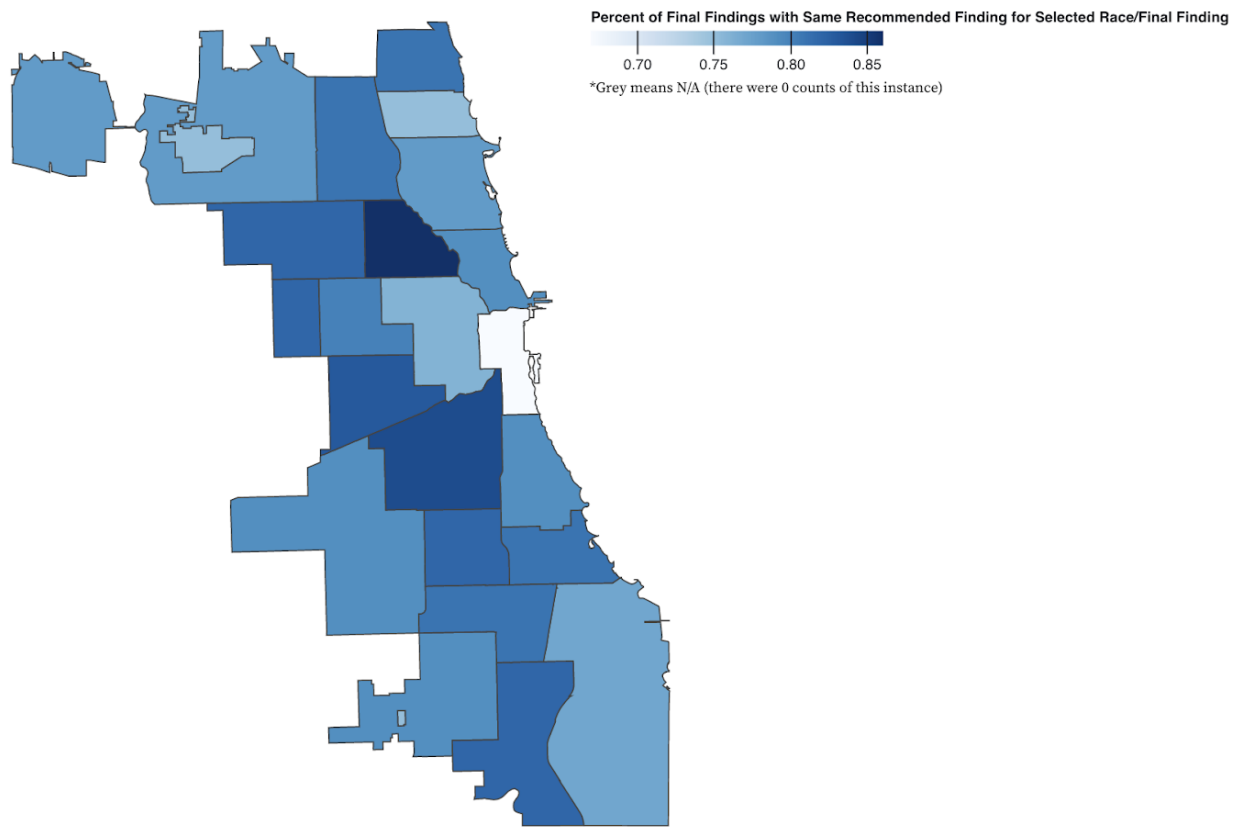
Display Percent or Count

Percent ⌄

Percent of Final Findings with Same Recommended Finding for Selected Race/Final Finding

0.70   0.75   0.80   0.85

*Grey means N/A (there were 0 counts of this instance)

Figure 9: Choropleth of Match Rate for Recommended and Final Findings in Chicago

Percent of Final Outcomes with Same Recommended Outcome for Selected Race/Final Outcome

0.70   0.75   0.80   0.85

*Grey means N/A (there were 0 counts of this instance)
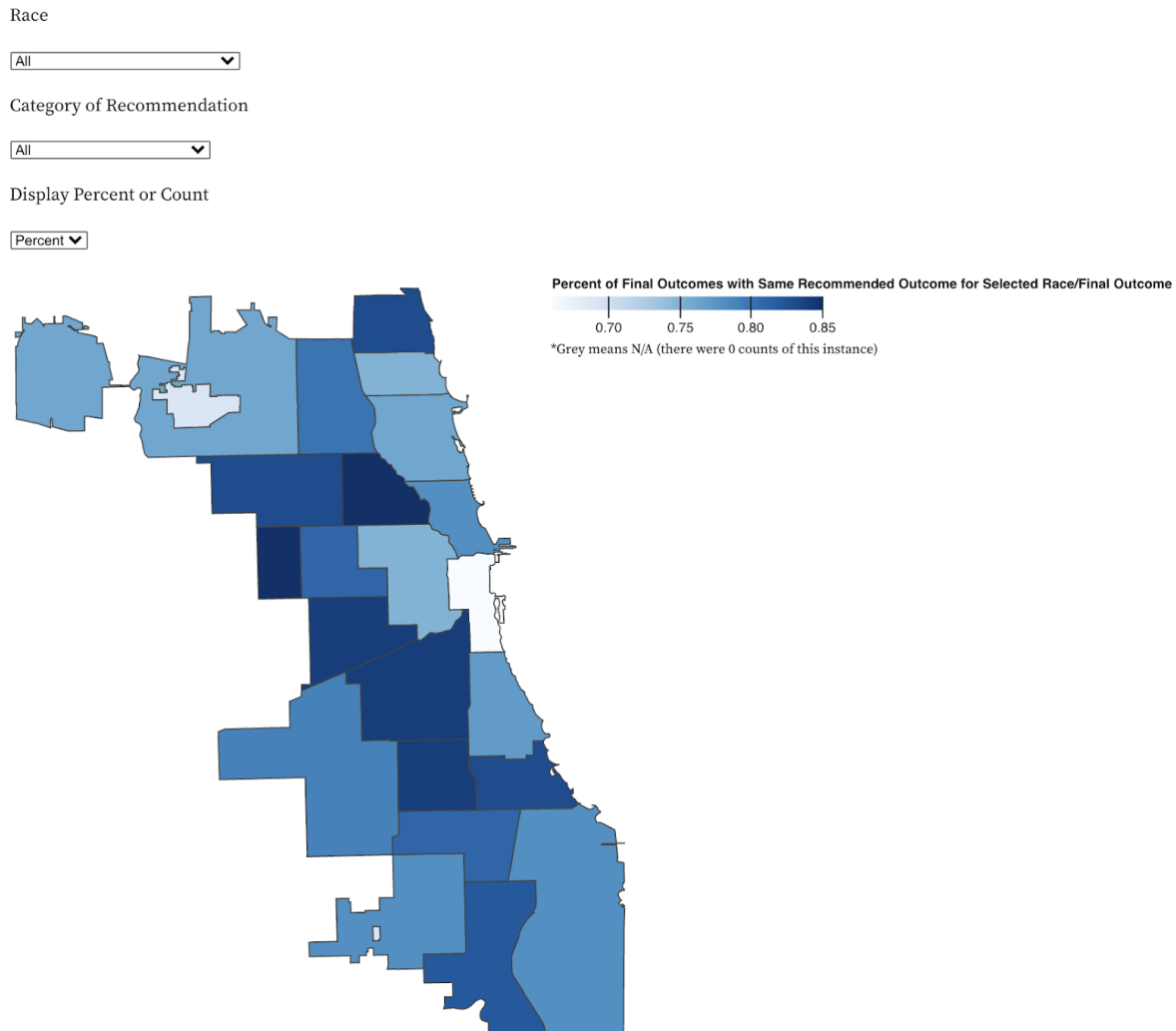
Figure 10: Choropleth of Match Rate for Recommended and Final Outcomes in Chicago

Police Network Bias

There is evidence to suggest that officers receiving null recommended findings is contagious, as officers more closely linked in a simple random subset of a graph that links officers (nodes) based on co-listings in allegations (branches) are more likely to have a similar rate of allegations against them with null recommended findings. To see this, look at this graph (Figure 11) and more particularly the zoomed in subsets (Figures 12 and 13). The color scale represents the percent of allegations against an officer with null recommended findings, with red being 100% and black being 0%.
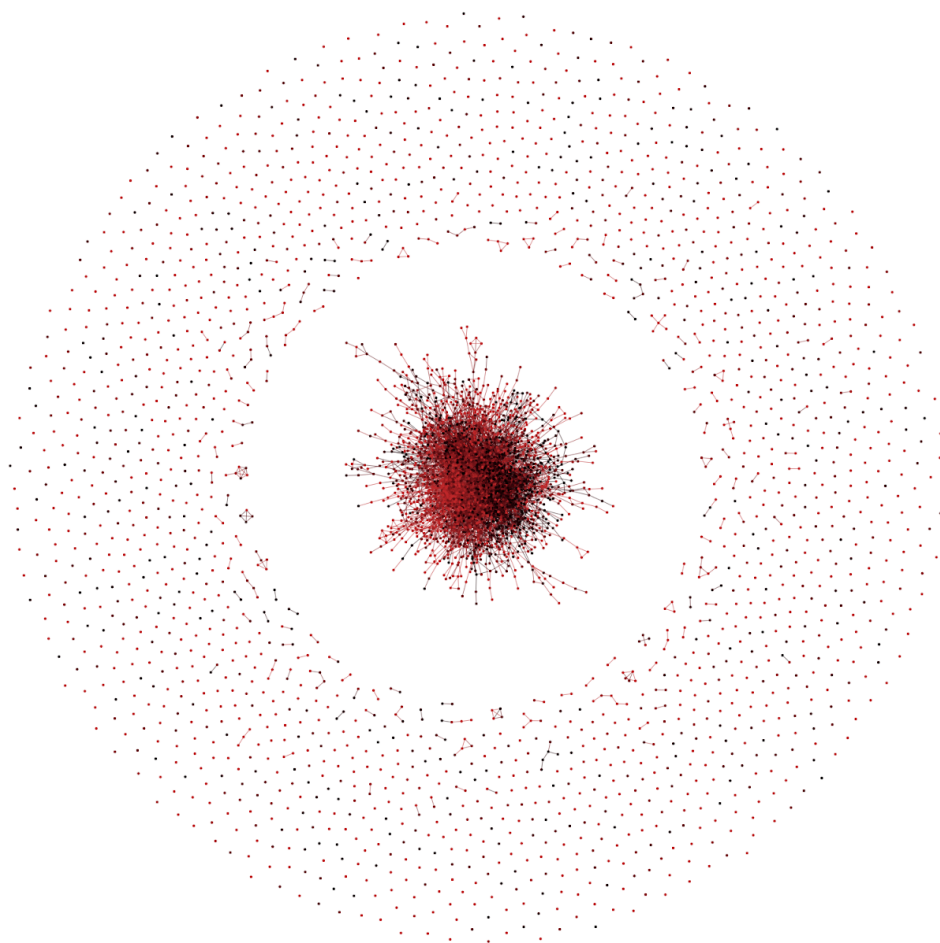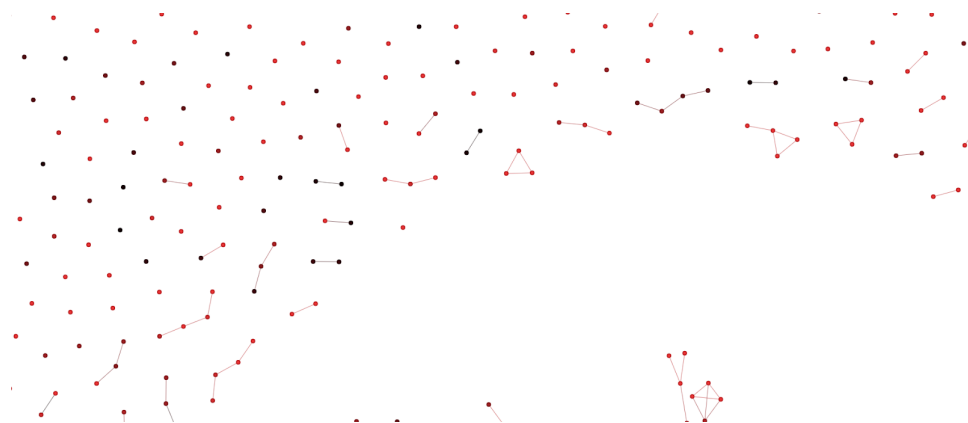
Figure 11: Police Officer Network

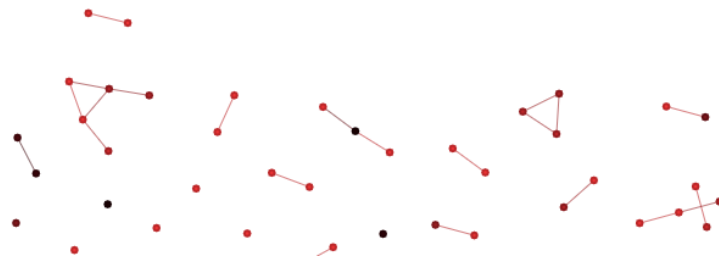Figure 12: Subset of Police Officer Network

Figure 13: Subset of Police Officer Network

Discrepancy #2: An allegation for use of force/excessive force is filed by a civilian but there is no Tactical Response Report (TRR) filed by the officer.

There are two major results the team found related to TRR filing discrepancies. The first is that only 9.22% of use of force allegations had a TRR filed. This demonstrated that the CPD is severely under-filing TRRs. Additionally, the rate at which an officer files TRRs (measured as the ratio of the number of use of force allegations with a TRR to the number of use of force allegations) is contagious since PageRank is positively correlated with this ratio (Figure 14).

pagerank percentile	pct_uncounted_aggressions
	mean
(90,100]%	98.630312
(80,90]%	98.363324
(70,80]%	97.721138
(40,50]%	97.329901
(20,30]%	97.265662
(60,70]%	97.077324
(30,40]%	96.962126
[0,10]%	96.693922
(50,60]%	96.341728
(10,20]%	95.789539

Figure 14: Relationship Between PageRank and Rate of TRR Filing

Conclusion & Open Questions:

The major conclusions of this analysis are three fold:
1. There is a bias linking Asian/Pacific Islanders to Whites victims and Hispanic victims to Blacks. The direction of this bias is not clear.
2. The CPD is more likely to overlook internal allegations like corruption than external allegations involving civilians. Thus, it would be interesting to explore the following:
3. TRRs are not filed nearly as much as they should be and the TRR-filing rate is contagious.

There are numerous open questions and areas of potential research. Two of the most prominent are:
1. As noted, the CPD overlooks internal allegations more often than external allegations involving civilians. This laxness in internal matters might lead to more external allegations. This correlation is an open question.
2. The team found community bias but is unsure why certain districts had low or high rates of mismatched recommended and final findings/outcomes. There could be future research into this topic.
3. Predicting the null entries for recommended findings so that we have more complete data and thus more accurate analysis.
4. Conducting more research on the direction of the bias that creates the dichotomy of treatment between races.