

Hungry Hornets Checkpoint 4 Findings

Question 1: Among officers who have drug and alcohol abuse or medical allegations against them, how often are they co-accused? How does this co-accusal pattern vary based on whether officers earn below or above the average annual salary across the full department?

In terms of all officers with drug and alcohol abuse and medical (DAM) allegations, the highest triangle count, a reflection of extent of involvement in co-accusal “cliques,” is 2933. The highest PageRank, which represents the officer (s) with the highest co-accusal interconnectedness, is 8.53. These values are listed in the table below.

When filtered according to salary, those officers with DAM allegations who earned below the average salary had a peak triangle count of 105, while those earning above the average salary had a peak triangle count of 91 (shown below). The highest PageRank for each sub-cohort is comparable. The higher peak triangle count, or indication of involvement in co-accusal cliques, among lower-earning officers is highly fascinating. This could suggest that those more often engaged in co-offenses are not able to perform sufficiently well in order to earn a pay raise, or perhaps they are more often of a lower-earning rank. Their involvement with these cliques could reflect poorly on their reputation in the department, making it more difficult to earn awards. Conversely, perhaps a lower salary translates into disenfranchisement or stress for an officer, which could serve as a precipitant for co-substance abuse behavior, in addition to engagement in other offenses within their co-accusal cliques, thus resulting in other allegations.

Triangle Count for all DAM Officers:

count	id	officer_name	allegation_count
2933	8844	Thomas Flynn	19
2914	200	Richard Aguinaga	16
2910	1907	William Bertha	20
2904	2941	Deborah Brown	14
2899	3927	Glenn Carlson	40
2878	5683	Victor Creed	10
2873	6346	Erroll Davis	12
2871	8138	Glenn Evans	132
2867	7007	Darrell Dobbs	17
2842	7000	Milton Dixon	22
2841	7005	Vincent Dobbins	2
2793	8821	Gwendolyn Flowers	2
2793	8561	Anthony Finney	7
2793	8773	Joseph Flores	17
2757	9489	Willie Ganison	5
2666	10697	Gregory Green	20
2617	11530	Henry Harris	7
2610	11512	Carolyn Harris	7
2571	12249	David Hill	15
2393	12852	Jerry Hutch	3

Count here is the triangle count.

PageRank for all DAM Officers:

id	officer_name	allegation_count	pagerank
29955	Carl Walston	1	8.530227585167191
23005	Paul Price	1	4.6109338298201035
32032	Brian Hawkins	49	4.524007245073958
32405	Henry Walton	16	3.426605063309718
29035	Edward Tures	14	3.315799479059275
32198	Raphael Mitchem	52	3.2925073407632053
22480	Edwin Phillips	1	3.251604314428484
31265	Lee Wozniak	12	3.220324514177345
31906	James Davis	76	2.8454226202732715
31563	Lawrence Zaragoza	13	2.740164442446008
31115	Andrew Wojnicki	3	2.6051990192559016
31497	John Zago	7	2.5702751555354864
19154	Raymond Mills	1	2.536867354149699
30603	Mark Wiktorek	33	2.525529612238163
32314	Jose Salazar	43	2.523248402178846
29088	Calvin Tyler	15	2.4981770798148877
31464	Michael Ytsen	18	2.4358913199289294
31027	Sharon Wise	15	2.415122266347129
23375	Mario Ramirez	44	2.4006778961888795
30300	Thomas Weigand	6	2.353033383487683

Higher-Earning Officer Triangle Counts:

count	id	officer_name	salary
91	11530	Henry Harris	55764
91	17492	Charles Martin	69270
91	11512	Carolyn Harris	36984
91	27686	Eric Strickland	87372
91	30952	Sam Wilson	58572
91	24677	Kenneth Rose	106920
91	7007	Darrell Dobbs	60600
91	8821	Gwendolyn Flowers	75372
91	19279	Joseph Mitchell	58572
91	5683	Victor Creed	117894
91	12852	Jerry Hutch	64662
91	7000	Milton Dixon	78012
91	8773	Joseph Flores	70656
91	7005	Vincent Dobbins	59412
91	9489	Willie Ganison	57426
55	4034	Robert Carroll	92430
55	9679	Charles Gary	67704
55	19154	Raymond Mills	75816
55	22480	Edwin Phillips	80724
55	4416	Jerome Chapman	83220

Higher-Earning Officer PageRanks:

id	officer_name	salary	pagerank
23005	Paul Price	72480	4.641676118133547
22480	Edwin Phillips	80724	3.2732836013158644
19154	Raymond Mills	75816	2.553781304879127
18758	Erskin Melchor	73116	2.1062113854673212
31438	James Young	59412	1.982905201028162
17964	Michael Mc Carthy	64992	1.911034774119742
31464	Michael Ytsen	102978	1.8209790813684303
18359	John Mc Knight	78450	1.8046105552641556
27342	Michael Stannish	78006	1.6802670614445063
12641	Charles Howard	75726	1.637883922913204
19750	Edward Moses	74628	1.633363054803198
30313	George Weir	70656	1.633363054803198
27518	Tyrone Stevenson	73296	1.633363054803198
22751	Sterling Poindexter	59412	1.633363054803198
29056	Charles Turner	70656	1.633363054803198
13066	Gregory Jackson	78012	1.5819926563442928
27557	Ronald Stieben	58572	1.559733336622598
28548	Robert Thorne	69264	1.4811856110336208
21773	George Papagiannis	75372	1.4289912956926218
25131	Jerry Saffold	46206	1.4250957487125695

Lower-Earning Officer Triangle Counts:

count	id	officer_name	salary
105	8561	Anthony Finney	58896
105	27686	Eric Strickland	87372
105	7005	Vincent Dobbins	59412
105	9489	Willie Ganison	57426
105	22847	Thomas Porter	89130
105	11512	Carolyn Harris	36984
105	24677	Kenneth Rose	106920
105	7007	Darrell Dobbs	60600
105	8821	Gwendolyn Flowers	75372
105	19279	Joseph Mitchell	58572
105	5683	Victor Creed	117894
105	12852	Jerry Hutch	64662
105	30952	Sam Wilson	58572
105	11530	Henry Harris	55764
105	17492	Charles Martin	69270
105	8773	Joseph Flores	70656
55	22480	Edwin Phillips	80724
55	8015	Robert Ervin	82008
55	18758	Erskin Melchor	73116
55	4034	Robert Carroll	92430

Lower-Earning Officer PageRanks:

id	officer_name	salary	pagerank
23005	Paul Price	72480	4.654765829688636
22480	Edwin Phillips	80724	3.2825143914633808
19154	Raymond Mills	75816	2.5609830698891964
18758	Erskin Melchor	73116	2.1121509854756257
31438	James Young	59412	1.9884970726844255
17964	Michael Mc Carthy	64992	1.916423968309153
31464	Michael Ytsen	102978	1.8451731703405891
18359	John Mc Knight	78450	1.8096996289169671
25131	Jerry Saffold	46206	1.8054047979605938
27342	Michael Stannish	78006	1.6850054814915023
12641	Charles Howard	75726	1.6425028208212022
27518	Tyrone Stevenson	73296	1.6379692036830367
19750	Edward Moses	74628	1.6379692036830367
30313	George Weir	70656	1.6379692036830367
29056	Charles Turner	70656	1.6379692036830367
28580	Edward Tiedje	92430	1.6379692036830367
22751	Sterling Poindexter	59412	1.6379692036830367
13066	Gregory Jackson	78012	1.5864539386541285
28548	Robert Thorne	69264	1.5771546222741115
27557	Ronald Stieben	58572	1.5641318467641148

Question 2: Among officers who have drug & alcohol abuse and medical allegations against them, how does the co-accusal pattern compare between more and less decorated officers? Specifically, how does the co-accusal pattern compare between those with more and less than the average number of awards won, respectively?

When filtered according to awards received, those officers with DAM allegations who earned below the average number of awards had a peak PageRank of 2.08, while those earning above the average number of awards had a peak PageRank of 1.67 (shown below). The highest triangle count for each sub-cohort is comparable. The higher peak PageRank, or indication of co-accusal interconnectedness, among officers that are less decorated, parallels the trend observed for triangle counts among lower and higher-salaried officers with DAM allegations. Again, it is possible that those who more often engage in co-offenses are not able to achieve the performance that would warrant an award. Again, a lower number of awards earned could be disenfranchising for officers, which could serve as a precipitant for co-substance abuse behavior, in addition to co-committal of other offenses resulting in allegations.

Also, as the distribution of awards can be dictated by politics and/or how well-connected an officer is with the department administration, or officer seniority, those officers associated with more co-accusal cliques may not interact with these figures as much, or they may not remain in the department long enough to prompt an award being given to them.

Most-Decorated Officer PageRanks:

id	officer_name	num_awards	pagerank
18958	Diane Michaels	38	1.6717113250776576
28878	Joseph Treacy	129	1.2591088504897885
31945	Melvin Ector	45	1.1892831327106976
29574	William Vick	31	1.1668348957616044
28275	Frederick Taylor	78	1.1596556038826997
32181	Paul Meagher	49	1.1363736734977217
25299	Daniel Sanchez	25	1.1340528178229516
32346	Mark Smith	59	1.1320279790416539
32091	Skip Katich	73	1.1137584535741631
24918	Gilbert Ruiz	136	1.1097057212006216
26150	Brian Sheehan	29	1.106981601850434
19867	Kevin Mulcahy	27	1.097669911316994
31191	Jimmy Woods	145	1.0968520402734792
29150	Akil Upchurch	73	1.09564863873333
22466	Martin Philbin	57	1.09564863873333
15695	Wilfredo Lapitan	87	1.09564863873333
22827	Karen Popp	24	1.0867861358664939
24457	Joseph Rodriguez	31	1.0827301933576976
16545	Enrique Lopez	41	1.0739931496085788
23153	Joshua Purkiss	100	1.0725457335887196

Less-Decorated Officer PageRanks:

id	officer_name	num_awards	pagerank
31464	Michael Ytsen	15	2.0803279453002217
17964	Michael Mc Carthy	13	1.910639575934099
27442	Scott Stehlik	11	1.8928392785739436
18359	John Mc Knight	13	1.804237365395038
12641	Charles Howard	13	1.7209128686438844
9713	Gary Gaski	1	1.6844792794109509
29668	Dean Vitulski	15	1.6721654236222592
23410	Raphael Ramos	15	1.667130229111527
7597	Patrick Durkin	19	1.6447051684758143
29056	Charles Turner	1	1.633025278576153
13270	Jason Jankowski	19	1.633025278576153
30313	George Weir	14	1.633025278576153
28580	Edward Tiedje	3	1.633025278576153
22751	Sterling Poindexter	1	1.633025278576153
19750	Edward Moses	14	1.633025278576153
30173	Andre Watkins	15	1.6247974685466495
24416	Michael Rodriguez	2	1.5031072788039452
24016	Michael Riordan	14	1.491715912617793
29207	Joseph Vaclavik	9	1.370930290385305
29848	Garvey Walker	3	1.3664850229610375