#MyNYPD Nodes and Networks: Mobilization and Engagement

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This article will discuss a social network analysis of tweets within the #MyNYPD protest, a public protest against police brutality and abuse of power that occurred via Twitter. I examined the five days containing the most tweets from six months of collected data to understand: What are the relationships between/among players' activity online? The tweets were collected through Node XL and then analyzed through Gephi, social network analysis software. Through examining the most proficient tweeters, either by the number of tweets or the number of retweets their tweets garnered, the connections between different players and their roles within the protest are discovered. This analysis of one day, April 9, 2015, visualizes the connections and communities formed within the #MyNYPD protest. Particular people enable the connections within the protest allowing the protest to sustain itself. These connections provide essential information in understanding how protests not confined to a specific geographical location can be maintained and flourish as agents of social justice.

Introduction

Much debate exists on the value and extent that Twitter (and other social media or social networking sites) can contribute to successful activism for social justice (Hands, 2011; Morozov, 2009; Shirky, 2011). Previously, scholars' assessments of online activism have tended to turn on a simple binary: either the activity enjoyed complete success for a social movement (for instance, during the Arab Spring an overthrow of a regime) or else the campaign was designated as a failure. Understanding how online protests work and how people can engage and contribute to protests not tied to a geographical location provides avenues and agency with which to fight for social justice. This understanding has gained relevance with the most recent election and the discussion of how to proactively mobilize and engage in activism, along with the question of how to sustain interest in a controversy.

This article will discuss a social network analysis of tweets within the #MyNYPD protest, a public protest against police brutality and abuse of power that occurred via Twitter. Started as a public relations campaign organized by the New York Police Department (NYPD) using the hashtag #MyNYPD, the campaign asked citizens to tweet pictures of themselves with police officers (Figure 1), and the public did, just not in the way the police department envisioned. Instead of positive photos with the police, the public organized online to share pictures of police brutality and harassment. What differentiates this use of Twitter within a protest is that the public subversively took control of a New York Police department public relations campaign and an organic grass roots effort occurred, thus turning the hashtag #MyNYPD into a bashtag.

I examined the five days containing the most tweets from six months of collected data to understand: What are the relationships between/among players' activity online? The tweets were collected through Node XL and then analyzed through Gephi, social network analysis software. However, the scope of this article will focus on one day, April 9, 2015, and the variety and type of interactions occurring during this day. Through examining the most proficient tweeters, either by the number of tweets or the number of retweets their tweets garnered, the connections between different players and their roles within the protest are discovered. This analysis visualizes the connections and communities formed within the #MyNYPD protest. Particular people enable the connections within the protest allowing the protest to sustain itself. Keeping incidents of police brutality in the public eye through the inclusion of sources outside of the protest brings attention to these incidents and is an important function/role of the nodes as it provides a repository for #MyNYPD protest incidents.

Figure 1: Initial tweet from NYPD.

Node Basics: Connections, Additions, and Roles

In this section I will introduce the components of a simple network connection, then explore how the network becomes more complex through the addition of nodes and interactions, and finally discuss the roles different people can play within a network.

Simple Network Connection

In Figure 2, Node A is the source as the arrow is pointing to Node B, indicating Node B is the target. Node A could have retweeted Node B, or mentioned Node B in a tweet. The actual tweet would need to be examined to determine the exact focus of the interaction.

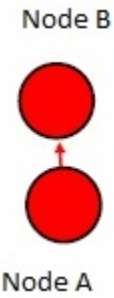

Figure 2: Simple network connection.

A few examples from my data set for this case study of the possible interaction between Node A and B are as follows. Below, I first restate the content from the node; next, in parentheses, I explain the activity spurred by the interaction.

1. RT @Node B #MyNYPD at it again (Node A is retweeting what Node B tweeted)
2. @Node B #MyNYPD another incident! (Node A tweeted a message to Node B, or Node A replied to Node B).

The simple network connection is the building block of the discursive activity that drove the #MyNYPD movement visualizing the basic interactions that can occur within this protest.

Adding Interaction to the Network

The complexity of networks develops from the interactions between nodes. The previous section discussed a simple network connection with only one interaction. However, more nodes and more interactions indicate more involvement within the community. Building on a simple network connection, next I will discuss how additional interactions are visualized.

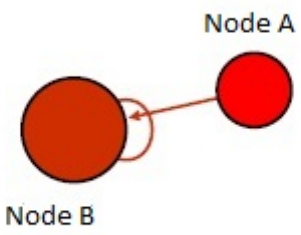

Figure 3: Simple network connection with more interaction.

Figure 3 is similar to Figure 2, where Node A is retweeting or mentioning Node B. However, in this example, Node B additionally has an edge that connects to itself. This indicates that Node B also has a tweet in this data sample. In Figure 2, Node B could have a tweet, but if Node B tweeted on January 1st, and Node A retweeted the tweet on January 2nd, and the data for this network only contains interactions from January 2nd, there would be no edge indicating that Node B had tweeted.

The size and color of the nodes indicate a person's influence or participation within the network. Node B is larger and a slight orange color indicting that Node B has more interactions than Node A. In this case, there are two interactions (a tweet, and a retweet, mention, or reply-to) from Node A. Node A is smaller and a red color indicating less interactions, in this case only one interaction, and that is with Node B.

Additionally, the weight and color of the edge indicates the number of interactions between the two nodes. In the case of Figure 3, the weight and color of the edges are the same, indicating that they are equal, and in this case the edges represent one interaction from Node A, and one from Node B.

Nodes and Networks in #MyNYPD

In understanding how networks work, there are multiple aspects to consider; it is not only the nodes and the connections between nodes but also the outcome generated by the actions of the nodes (Easley & Kleinberg, 2010, p. 4). Social network analysis enables us to understand the nodes and connections and their results. First, I will explicate the terms within a social analysis and in particular the #MyNYPD protest, then I explain the methods and tools used to accomplish the social network analysis. Next, I analyze April 9, 2015 to show the benefits of social network analysis.

Networks are symbolized through nodes and edges; nodes are the entities within the network, and edges are the paths that connect the nodes (Johnson, Everett, & Borgatti, 2013; Easley & Kleinberg, 2010; Hansen, Shneiderman, & Smith, 2011; Smith et al., 2009). In this case study, a node is a Twitter user and is labeled with her or his respective user name. The edges (the lines) that connect the nodes indicate an interaction among the nodes. An interaction may be a tweet, regardless of whether anyone retweets or replies, or it may be an engagement with another Twitter user through a retweet of a tweet, a mention of another user within a tweet, or a reply to a tweet. Interactions through nodes and edges visualize the connections between Twitter users, and specifically in this case study, members of the #MyNYPD protest.

Networks are either directed or undirected; in this analysis I use only directed networks. The constructed graphs created by the social network analysis software visualize interactions through directed networks that have an arrow at the end of the edge indicating which node is the source (created the interaction) and which is the target (received the interaction). Undirected networks only show the edges between the nodes and not how the nodes interact with each other (Borgatti, Everett, & Johnson, 2013; Easley & Kleinberg, 2010; Hansen, Shneiderman, & Smith, 2011). Therefore the essential difference between the two is that directed networks show the node that tweeted and the node that received the interaction visualized through an edge with arrows showing the initiator and the receiver. Undirected

networks provide no indication of the relationship between the two nodes. To pursue the question driving this analysis, a directed network allowed me to discover how the nodes within my data set interact with each other.

Data Collection Methods

In order to analyze a sufficient amount of data, I collected data for a six-month period (January 13, 2015–July 12, 2015) using NodeXL to harvest any tweets containing the hashtag #MyNYPD.

Defining a Tweet: Node XL

When I refer to tweets gathered through this software, it could be a tweet, retweet, replies, or a mention using #MyNYPD. It is important to note the difference between a reply and a mention. A reply is a response to another user's tweet and will include the recipient's user name at the beginning of the reply. For example, Node A replies to Node B: @NodeB I agree #MyNYPD needs to stop! A mention contains a user name any place within the tweet. For example, Node A mentions Node B: #MyNYPD needs to stop! Right @NodeB. Therefore, all replies are mentions.

I explain this collection of data in NodeXL in more depth below. Node XL collects data by creating a row of data for each interaction within a tweet. One tweet may have multiple interactions, but each interaction is recorded in Node XL with a separate entry. For example, the tweet by Node A—"@Node B @Node C RT @Node D Cops involved again!"—would have three rows of data in Node XL, while only being one tweet. Node A mentions Node B (first interaction), mentions Node C (second interaction), then retweets Node D's tweet (third interaction). Therefore, Node A is directly mentioning Node B and Node C to alert them to Node D's tweet. For an example of how this might look, see Table 1.

Vertex 1	Vertex2	Relationship	Tweet
NodeA	NodeB	Replies To	@NodeB @NodeC RT @Node D Cops involved again!
NodeA	NodeC	Mentions	@NodeB @NodeC RT @Node D Cops involved again!
NodeA	NodeD	Mentions	@NodeB @NodeC RT @Node D Cops involved again!

Table 1: Example of a tweet displayed in reference to interactions.

Node XL defines Twitter activity according to three categories: tweet, mentions, and replies-to. The decision of what category each interaction falls into depends primarily on the usage of Twitter usernames. An interaction without any other usernames is labeled a tweet, an interaction that contains usernames is designated a mention, and an interaction that begins with a username is considered a replies-to. A mention can be a retweet or a message to another user. Additionally, a replies-to could just be a message to another Twitter user; there is not a designation for replies-to such as there is for retweet (RT), with RT preceding the user name.

Examples of these categories are as follows:

- Watch out! #MyNYPD on the prowl. (Tweet)
- RT @Node B #MyNYPD at it again (Mention)
- Be careful at the #MyNYPD protest today @NodeC (Mention)
- @Node D #MyNYPD another incident! (Replies-to)

Since a retweet is labeled within NodeXL as a mention, along with tweets that are mentions, data would need separation on an additional level to only include tweets with the preceding RT in order to separate retweets from mentions.

Charting the Data

I then separated the data by day and charted the data to determine how many tweets using the hashtag occurred on a daily basis. The use of a 24-hour time period allowed for an equal time period for data

separation. A longer time period, such as a week, would provide more data for the network graphs but create more crowded and unwieldy graphs, making analysis more difficult. Figure 4 contains data for the entire six months, establishing that while #MyNYPD had ebbs and flows within its use, the hashtag continued to be used throughout the six-month period.

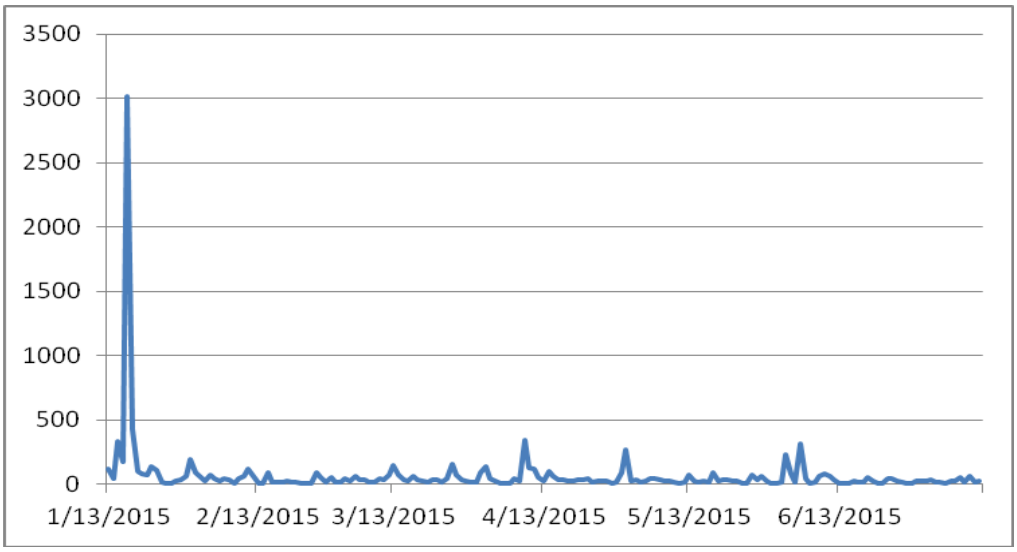

Figure 4: Tweets from January 13, 2015—July 12, 2015.

Next, I needed to determine the five days with the most tweets, so I sorted the days by the number of interactions from each day. Table 2 below shows the five days containing the highest number of tweets. In this six-month data set, there are three days in the month of January, one day in April, and one day in June. I chose five days in order to visualize a diversity of days and data within the protest. This strategy offers insight into activities and roles within the community; of course, this decision also limits insight into other concerns beyond the parameters of this study, concerns regarding, for instance, what connections are occurring in days with lesser interactions and what connections are occurring outside of the six-month data set.

6/5/2015	319
1/15/2015	333
4/9/2015	347
1/18/2015	425
1/17/2015	3019

Table 2: The five days with the highest number of tweets.

With these data identified, I was then prepared to pursue an analysis that would permit me to address the research question at hand: What are the relationships between/among players' activity online?

April 9, 2015 Analysis

I selected April 9, 2015, which contains the third highest number of tweets, to illustrate the connections and communities which continue to sustain the protest. First, I provide a general overview of the day's network graph. Then, I discuss two major players within the same community, Gawker and desusnice, and their tweets and interactions within that day. Finally, I discuss two minor players within the same community, Combat_Jack and PzFeed, and their tweets and interactions. Key findings from this

section show the degree of connection between two communities can be as small as one user and that participants actively bring new information regarding police abuse and misbehavior into the protest from outside sources.

In understanding the social network analysis figures (5, 6, and 8), what is valuable in these data visualizations is the connections these graphs show for one day of data, including two nodes creating a major community (A) and their interactions, two nodes creating a minor community (B) and their interactions, and the node (C) connecting these two communities. It is not necessarily who (i.e., user name) is tweeting, but how are the tweets connected (edges) to other users (nodes). This visualization allows for an analysis of a day's worth of data or a single tweet (the minimum and maximum parameters of my study), allowing for insight into how Twitter works within a protest.

In viewing Figure 6, we see the major community with two primary nodes and their multiple edges to multiple nodes (A) along with a connection to a smaller minor community (B) and lastly the node (C) that connects the communities of A to B. Additionally, other nodes and edges representing additional tweets are present, as well as orphan nodes (nodes without any interactions).

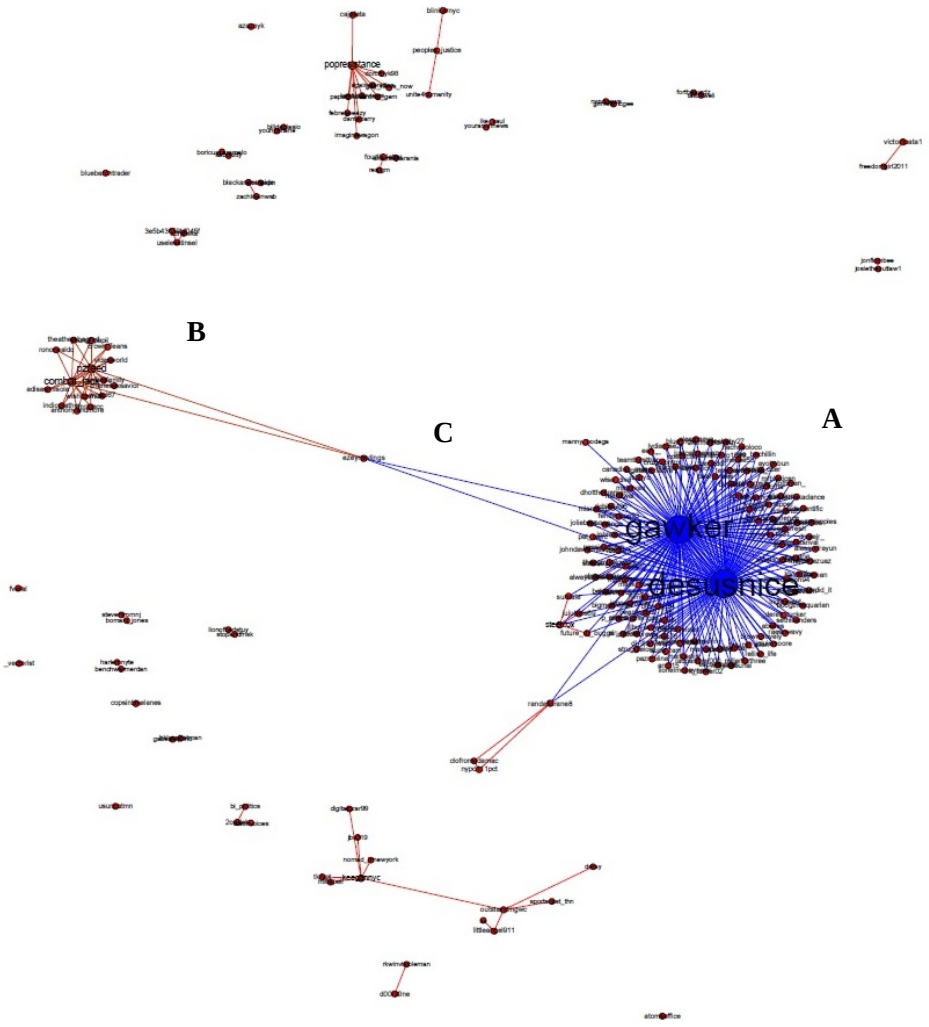

Figure 5: Social network analysis of #MyNYPD from April 9, 2015.

General Analysis of April 9, 2015

The day with the third highest number of tweets contains 347 tweets and the resulting network consists of 213 nodes and 343 edges, meaning that multiple nodes created multiple edges, very different from January 15, 2015, with 330 nodes and 328 edges. There are multiple players as in the other data sets, but the two major players, Gawker and desusnice, are entwined within the same community. There are also active minor players who are joined to the main community and others that are separated. The minor players, Combat_Jack and PzFeed, who are joined to the main community, are also embedded together within their minor community, resulting in two communities containing two main players embedded in a type of solar system network. Figure 6 provides a closer view of the major community (A) along with its connections to a minor community (B) through one node (C).

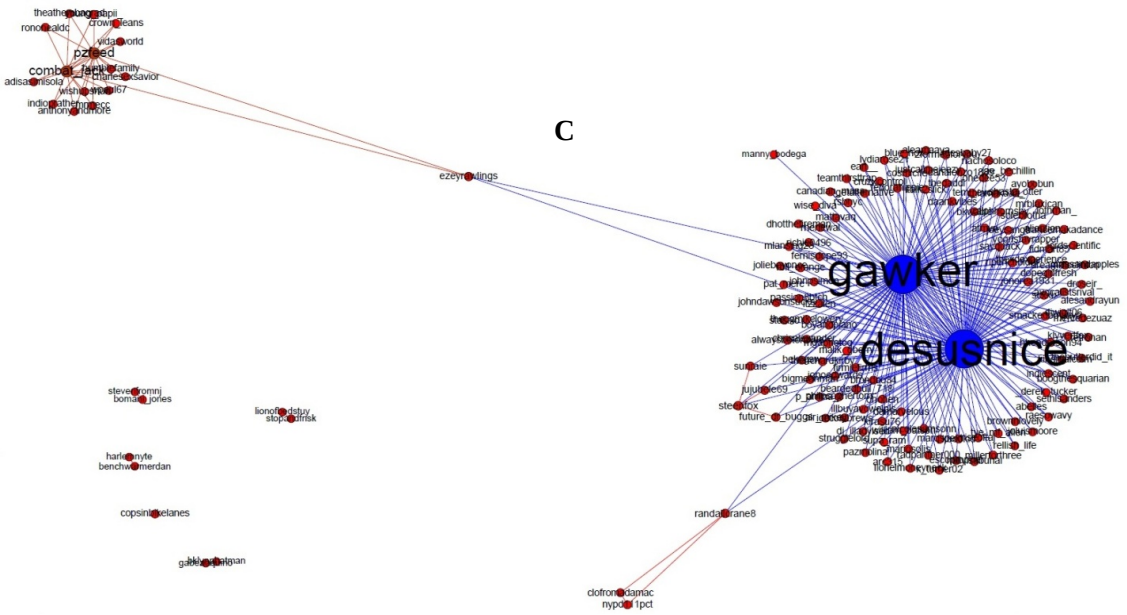

Figure 6: April 9, 2015 Gawker and desusnice's interactions.

Gawker and desusnice's Tweets and Analysis

Gawker has 127 interactions and desusnice has 126 interactions; together they account for 73.7 interactions with other nodes within the community. The roles of Gawker and desusnice are combined within a retweet, as desusnice retweeted Gawker's tweet; therefore, desusnice has one less interaction than Gawker. Gawker and desusnice are then connected to the minor community through a single node, EzeyRAWlings. In this case, when a node retweets desusnice's retweet, an edge is created for both desusnice and Gawker, due to the mention of Gawker in the retweet (Figure 6). It should be noted that Gawker is an entity, as the description of Gawker from Gawker's home page is, "Today's gossip is tomorrow's news." Applying this description to Gawker's tweet, it would appear Gawker is participating not as a member of the protest but instead providing information about an event as news. However, since desusnice is a follower of Gawker, he is able to spread the information about a corrupt police officer to the protest members. Interestingly, Gawker does use the word allegedly in the tweet, perhaps because Gawker is a media entity and not an individual.

Combat_Jack and PzFeed's Tweets and Analysis

As previously mentioned, EzeyRAWlings is the node that connects the major community and the minor community. Major and minor communities are defined as such based on the number of interactions that occur on that particular day. Therefore, a set number of interactions does not define a major or minor community. EzeyRAWlings retweets desusnice and Combat_Jack, creating the connection between the two communities. Combat_Jack and PZFeed's community is a smaller representation of desusnice and Gawker's community. Figure 8 shows the smaller community (B) in detail, and it alsoshows the similarities between the connections between the major and minor communities and their interactions.

Figure 7: April 9, 2015 desusnice's retweet.

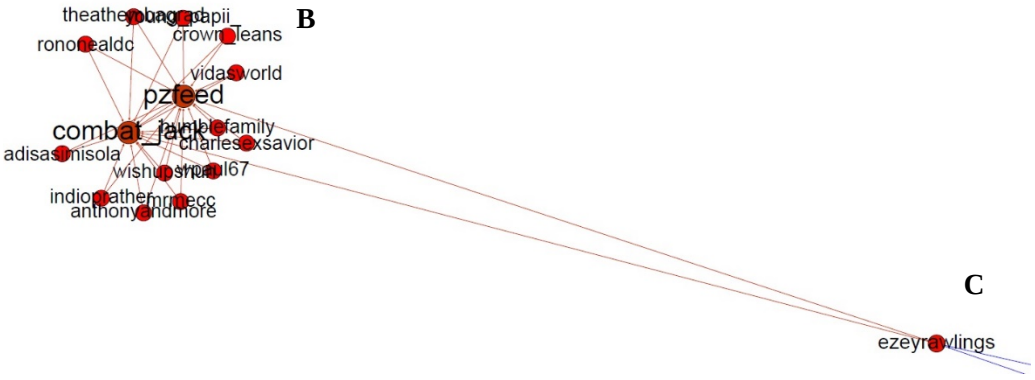

Figure 8: April 9, 2015 Combat_Jack and PzFeed's interactions.

As Combat_Jack retweets PzFeed's tweet, resulting in 14 interactions for Combat_Jack and 15 interactions for PzFeed, Combat_Jack also uses a Twitter convention not seen up until now where his tweet (Figure 9) included the quote tweet instead of using RT preceding the tweet allowing him to include new text. By adding #MyNYPD, Combat_Jack moved this information from general news into the venue of the protest. desusnice (Figure 8) did a similar thing but used RT instead of a quote tweet and added #MyNYPD before RT @Gawker.

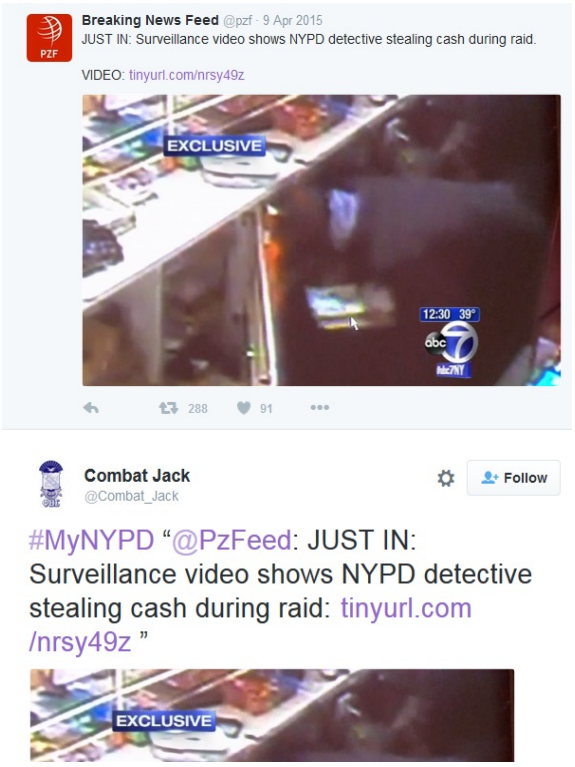

Figure 9: April 9, 2015
Combat_Jack's retweet.

PzFeed's Twitter account description reads, "Real-time updates on breaking news and critical event stories as they happen," which is in contrast to Gawker's "gossip purpose." PzFeed's tweet's topic is similar to Gawker's, exposing a police officer who pilfered money from a business during a bust; however, note the difference in word usage. PzFeed tweeted, "video shows NYPD detective stealing cash" while Gawker tweeted, "NYPD cops suspended after allegedly stealing $3,000." PzFeed implies that the police officer has already been tried and convicted, while Gawker uses the word allegedly, making the point that the police officer has not been convicted of anything, only accused. Videos can be faked, or taken out of context, so due diligence would serve a purpose in this situation especially since PzFeed's Twitter account description leads one to believe he is reporting the news rather than giving a biased viewpoint. While it is important to expose an abuse of police power, keeping perspective and keeping things ethical validates the protest and prevents it from being dismissed.

What is important in this network is the work that desusnice and Combat_Jack participate in through their tweets. Both tweets are retweets, but they realize the importance of the information in relation to their protest and add the hashtag #MyNYPD, thus broadening the scope and the followers that the information reaches. Through this discovery of outside information from sources outside the affinity space, desusnice and Combat_Jack actively engage with this affinity space through their affinity against police misconduct and abuse.

Conclusion

The diversity of relationships between players' activity online is evident in this analysis of one day's activity. What is important in this specific network analysis is the work that desusnice and Combat_Jack participate in through their tweets. Both tweets are retweets, but they realize the importance of the information in relation to their protest, and add the hashtag #MyNYPD, thus broadening the scope and the followers that the information reaches. Through this discovery of outside information from sources outside the #MyNYPD space, desusnice and Combat_Jack actively engage with this online space through their efforts to expose police misconduct and abuse. As participants and everyday citizens, they actively bring new information regarding police abuse and misbehavior into the protest from outside sources, sources and events that might not be known otherwise to the #MyNYPD protest. Additionally, the degree of connection between two communities can be as small as one user, whose actions enlarge the potential audience and result in sharing information between different communities. This rhetorical work allows this protest to sustain and continue its efforts to expose police misconduct and abuse while advocating for social justice.

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