#Occupywallstreet: An Analysis of Twitter Usage during a Protest Movement

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Abstract

In 2011, the Occupy Wall Street movement made history as one of the largest grassroots protest events in the United States. Members made frequent use of social media tools, like Twitter, to share information and mobilize participants. This study uses content analysis to examine the way that Twitter is used to incite, organize, and perpetuate protest movements. 1500 tweets in total were coded for content and linguistic features to provide insight into how Twitter is used to achieve different goals surrounding protest movements, the tonality of the tweets, and the purpose of distributed messages. Our findings indicate that Twitter is a tool primarily used for sharing objective, logistical information, along with opinions, to create a unified community and mobilize individuals to participate in a physical space of protest.

Keywords

Content Analysis, Discursive Resistance Online, Occupy Wall Street, Twitter, Social Media, Community Formation

1. Literature Review

Occupy Wall Street may be one of the most talked about protest movements in recent US history. The New York Times has even dedicated a section of its website to the movement, compiling all relevant information to the movement in one place [1]. The protest started on September 17, 2011 and organizers continue to plan protests as recently as May 1, 2012 [2]. It began as a group of activists inspired by the protests in Egypt and Tunisia, as well as a call to arms by the Canadian magazine, Adbusters. In a blog written on July 13, 2011, authors called for "20,000 people [to] flood into lower Manhattan, set up tents, kitchens, peaceful barricades and occupy Wall Street for a few months" [3]. Beginning with 1,000 protestors in New York City, the movement has

spread across the globe, uniting with the slogan, "We are the 99%" ("What is Occupy", 2011). Their complaints are against the wealthiest one percent, representing banks, financial firms, and others. The goal was to protest "corporate greed, social inequality and the corrosive power of major banks and multinational corporations over the democratic process" [1].

Using the title of the Adbusters blog, "#Occupy wall street", supporters and critics of the movement began using that hashtag to share information and opinions about the movement with their networks. Reuters and Social Flow, a social media tracking company, began following the use of the hashtag on Twitter and found little usage prior to the day before the protest, September 16, 2011 [4]. Anonymous, an online community of hackers, also threw their support behind the movement and created a video that was posted on Adbusters on August 23, 2011. Clearly, the internet and social media were crucial in the start of this protest movement, as well as the way it was maintained and ultimately turned into a mainstream media topic.

Though protests have been happening for centuries, Twitter has changed the way that protests come together, and also impacted the people involved with them. When talking about the Iranian protests, Grossman [5] explained, "Twitter didn't start the protests in Iran, nor did it make them possible. But there's no question that it has emboldened the protesters, reinforced their conviction that they are not alone and engaged populations outside Iran in an emotional, immediate way that was never possible before." (para. 9). This perspective is what makes social media so compelling for communication scholars, and positions us as uniquely qualified to provide insight into how social media functions to engage citizens in protests. We can also provide information to assist policy makers and the public, because while Twitter can be used to encourage democratic participation, it can also be used to spread misinformation or to track and silence dissenters [5]. Through the examination of tools like Twitter, we can illuminate how information is shared, the way individuals connect via social media, and the end results of those efforts.

Studying social media is also valuable way to analyze our society and culture as a whole. Ruben and Stewart [6] wrote about mediated communication as a "cultural mirror, combining with the messages of face-to-face communication to provide a menu and an agenda of concerns, issues, values, personalities, images, and themes that occupy a central role in the symbolic environment to which individuals must adapt" (p. 340). Examining the communication within Twitter provides us with a mirror to examine the ways people organize and share information, especially in regards to new technologies and protest movements.

However, most current literature regarding social media and protests focuses on locations outside of the US, such as Egypt [7] [8] and Romania and the UK [9]. Other work focuses on analysis by looking at how the news talks about Twitter use, rather than looking at the way Twitter is actually used [10]. This study seeks to expand our understanding of the way people use Twitter in protest movements through content analysis of tweets regarding the Occupy Wall Street movement. This information can

be used to inform policy makers and the general public alike about the way social media impacts society as a whole [11].

1.1. Social Media and Protest Movements

Twitter is an asynchronous social media site which allows users to create a profile page and then update with messages via the main website, mobile internet devices, and text messages [12]. The messages are automatically posted and visible on the public Twitter web page. Currently, there are more than 140 million active users who tweet 340 million tweets per day [13]. As Murthy [12] noted, it is not clear how many tweets actually get read each day, but "people are sending tweets and consider it to be meaningful for them" (p. 781). While tweets are limited to 140 characters, users can take advantage of other applications or websites which shorten hyperlinks, embed photos into messages, or link to longer posts hosted on other websites [14]. Messages can be linked to one another through the use of a hash sign, also called a "hashtag". This links all messages into a searchable list, where individuals can visit the main Twitter page and search for a hashtag—like #occupy wall street—to find all tweets containing that tag [12].

Users can create a live feed of tweets by "following" other members on Twitters. Each time that user submits a new tweet, it shows up on that users feed instantly, and can be simply read, "retweeted" (*i.e.* sent out to their own network of followers), or responded to in a direct tweet (*i.e.* still public, but targeting that user by username). This allows members to create a network of people to receive information from, or submit information to. The collection of tweets on a user's profile is also called a "microblog", described as a blog that contains short rather than long messages [15]. Previous studies on microblogs have shown that users feel a sense of community due to the frequent updates and virtual presence of other users [16].

1.2. Social Media and Information Sharing

Murthy [12] discussed research on Twitter and its use by citizen journalists in breaking news or spreading information. Murthy's [12] argument is that Twitter can be used by citizens to both disseminate information and also document newsworthy events with photographs and video. For example, when US Airways flight 1549 crashed, a Midtown Ferry passenger had taken a picture and uploaded it to Twitter before it was even covered by news agents [12]. Murthy also discussed the 2008 Mumbai bombing and the way that Twitter users gave eyewitness accounts and started a trending hashtag, #mumbai, that generated so much traffic that the Indian government requested Twitter to stop updating the feed for fear that the terrorists were using it to organize [12]. The blend of instantaneous updates, concise messages, and the ability to incorporate photographs makes Twitter an ideal method for disseminating information to mass numbers of people quickly and efficiently.

Ems [10] conducted a study on the use of Twitter in three protests: the June 2009 Iranian presidential election protest, the Moldova protest in April 2009, and the G-20 Summit protests in Pennsylvania in September 2009. Instead of examining the actual

tweets, her study was based upon news stories published in the mass media, blogs, or other types of journals [10]. In all three cases, Ems [10] found that Twitter was used to "organize protests, get information to media outlets about the protests, or to avoid police in the streets during protests" (para. 9). Erickson [17] called this type of information "citizen microbroadcasting", which involved sending relevant, location-specific information to followers (p. 1200). Typically, the user would report on events as they were occurring and combine that with personal, opinion related commentary [17]. In order to examine some of these issues using first hand data from tweets about Occupy Wall Street, we proposed the following research questions:

RQ 1: a) What percentage of the tweets contain logistical information?

RQ 2: a) What percentage of the tweets contain public outreach? b) What is the most common form of public outreach?

RQ 3: a) What is the most common type of general information shared? b) What percentage of the tweets contain information about police activity? c) What percentage of the tweets contain eye witness accounts?

Papacharissi and Oliveira [7] examined Twitter usage during the Egypt protests in January 2011, generating a concept of "affective news streams" (p. 279). This describes the way that news is constructed through a collaborative effort of Twitter users, uniting experience with opinion and observation to anticipate future events and frame them [7]. Papacharissi and Oliveira [7] argued that "affective attachments create feelings of community that may either reflexively drive a movement, and/or capture users in a state of engaged passivity" (p. 280). To evaluate the presence of affective news stream within the Occupy Wall Street movement, we proposed the following questions:

RQ 4: a) What percentage of the tweets include opinion sharing? b) What is the primary opinion shared overall?

RQ 5: a) What is the most common opinion expressed in tweets regarding the event? b) Regarding the participants?

1.3. Discursive Resistance Online

Wood and Smith [18] define discursive resistance as "a process through which text, oral, nonverbal communication, and other forms of meaning-making are employed to imagine alternatives to dominant power structures" (p. 180). The internet can be viewed as a space for imagining such alternatives. As examined in Fahmi's [8] research, activists "[use] the Internet as a work space, social centre [sic] and project workshop so that virtual and physical spaces are experienced almost as a single space of communication" (p. 90). Activists take information created and spread online as a way to navigate and construct street protests [8]. This can also be examined as an issue of place/space. Place is defined as a defining force that works to "formalize, authorize, and make permanent the processes through which dominant interests maintain their influence" (p. 181) [18]. In contrast, space is the localized response where individuals find meaning and identity in places [18]. This is similar to Habermas's [19] concept of the public sphere, where in an ideal democracy, citizens would come together as a group to debate, and perhaps dissent against, the existing systems of power. Virtual spaces of pro-

test can be "spaces of freedom", as can sites of local protest, like Wall Street [8].

This concept of created space is related to two types of rhetoric that can be found in online dissent: agonistic rhetoric and utopian rhetoric. Agonistic rhetoric aims to "produce or invoke ritualized conflict with an established order" (p. 184) [18]. This type of confrontation is based upon the idea of placing blame on others for perceived wrongs, which can eventually lead to a changed state [18]. Utopian rhetoric invokes an "ideal form of interaction" that cannot exist and is inaccessible (p. 185) [18]. Internet protest movements may be seen as utopian because the spaces created are not physical locations [18]. They exist in an online space that does not exist outside of the online realm, and must utilize components such as absurdity, community, and social order to invoke the ideal state [18]. Agonistic rhetoric promotes pushing back against established order, which could be enacted through the movement of dissention from an online medium to a physical space of protest.

In addition to creating spaces of freedom, Twitter users could be evaluated as communities coordinated through social media. There are two main types of communities: intentional, or people who join together for a specific reason who are unified by language, location, or culture, and ad hoc, or people who form a spontaneous community in response to a crisis or threat [18]. The Occupy Wall Street protest could be seen as a blend of these two types of community. First, the members using the corresponding hashtag are intentionally joining a group of people who feel similarly about the economy and government, and could be united by a particular type of language as it comes to talking about the event. Second, the members are responding to the existing economic crisis by accusing Wall Street and the government of greed and corruption. RQ 1 already addresses the place/space issue, so to examine the issues of dissent and community formation, we proposed the following research questions:

RQ 6: What are the most common linguistic features in the tweets?

RQ 7: What is the most common theme in the tweets?

2. Method

2.1. Content Analysis

Content analysis is a "systematic, step-by-step procedure used to answer research questions and test hypotheses" (p. 239) [20]. The purpose of this approach is to "identify, enumerate, and analyze occurrences of specific messages and message characteristics embedded in texts" (p. 236) [20]. Krippendorf [21] described four reasons to use content analysis over other methodologies: first, it is unobtrusive because of the focus on existing texts; second, it is unstructured material that is categorized; third, it is examined in context; and fourth, it can handle large amounts of data. It is a five step process: sampling texts, choosing features to code, developing categories, training coders, and analyzing data (p. 239) [20].

2.2. Sampling Process

The Occupy Wall Street protest began on September 17, 2011. To capture organiza-

tional efforts that would be focused on the initiation of the protest, tweet samples were pulled from September 16, 17, and 18. These three dates were chosen to analyze pre-event, day-of, and day-after tweets of the event. Twitter does not authorize release of large amounts of raw data, so researchers utilized a software tool to pull tweets by date and search term. The hash tag #occupy wall street was used to identify related tweets. This hash tag was chosen because it was used as the official hash tag by event organizers and participants. The last 500 tweets of each selected date were chosen for analysis, yielding a total number of 1500 tweets.

2.3. Selecting Unit of Analysis

Each tweet was examined as its own unit of analysis. While some tweets contained multiple phrases, the short length of 140 characters made it difficult to break the tweets into smaller phrasings. Also, not all tweets contained multiple words. Some consisted only of hyperlinks, hash tags, or other single words. However, due to the fact that each tweet referred to a particular event and we were seeking the meaning users were attaching to that event, these could be defined as referential units [22].

2.4. Category Development

The primary researcher developed the list of categories for the code book using the research questions as a guideline. As the coding proceeded, coders tracked any findings that fell into the "other" category in order to add additional ones, but no significant additions were found. The referral category focused on tweets that referenced outside information. This took the form of urls/hyperlinks[1], pictures[2], or videos[3]. Tweets coded as sharing event logistics were those providing the date[4], location[5], time[6], or other logistical information, like restaurant or bathroom locations[7]. General information sharing included information related to the protest, but not to logistical information. Tweets coded for this contained things like event consequences[8], eye witness accounts[9], police or military activity[10], and other types of general information[11]. Opinion sharing referred

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[1]Example: *@SchoolerLA "RT @anonops: Schedule for #OccupyWallStreet #Sep17 >> http://t.co/w8CoaQhM"*

[2]Example: *@jmsjckmn "Good luck tomorrow, here's a poster to help get the message across. #occupywallstreet #sept17 #usdor @lupefiasco http://t.co/l63Zwn8k"*

[3]Example: *@Abe93s "RT @AntiSec_: Think Different. http://t.co/skfcpNbO #rebels #occupywallstreet #crazyones #genius"*

[4]Example: *@CDXXb3ll "RT @OperationLeakS: #OccupyWallStreet is this Saturday #Sep17 and WallStreet will never be the same. We are #Anonymous. We are the People ..."*

[5]Example: *@superbranch "RT @HotLiberalBitch: Tomorrow Wall Street will belong to the people. #occupywallstreet http://t.co/PNB8YFV7"*

[6]Example: *@AnonymousTx "AnonOps Communications: Schedule for #OccupyWallStreet #Sep17 http://t.co/YyV667ND"*

[7]Example: *@littlelisa8 "@anonops: Call (877) 881-3020 for Help & Directions for #OccupyWallStreet #Sep17 RT"*

[8]Example: *@sly_3 "Arrests During Test Run for #OccupyWallStreet http://t.co/ZlTQXH2Z/ via @huffingtonpost"*

[9]Example: *@superbranch "RT @jeffrae: I see a few people on my train with sleeping bags...I think they are #occupywallstreet folks. This thing is real! FTW".*

[10]Example: *@WIProud "MT @sonyazink: #signs all ovr. nypd security cameras in ths area/b/c big brother cn never have enough eyes on us;) #occupywallstreet"*

[11]Example: *@strawprophet "RT @YourAnonNews: The Hipster's Guide To The Revolution: http://t.co/obJ7XXGd via @NYULocal #USDOR #sept17 #occupywallstreet"*

to any opinion expressed within the tweet. This was divided into two topics, opinions about the event[12] and opinions about participants[13]. Tweets with public outreach were those that targeted followers or media and celebrity figures for attention (usually in the request for retweets)[14], supplies (such as food or camping equipment)[15], help (like rides to the event)[16], information[17], or other types of outreach[18]. Lastly, linguistic features included things like joke/sarcasm/irony[19], swearing/cursing[20], slang[21], or other linguistic features[22]. For more detail, see Table 1.

In addition to doing a referential unit analysis, researchers also conducted a thematic

Table 1. Tweet classification categories.

Category	Subcategories (represents different subcategory)
Referral	Refers to URL; picture; or video
Event logistics sharing	Provides the date; location; time of the event; or other logistical information
General information sharing	Sharing information about event consequences/impact; eye witness accounts; police/military activity; and other general information
Opinion sharing	Presents positive/affirming opinion about the event; negative/critical opinion about the event; neutral opinion about the event; positive/affirming opinion about participants; negative/critical opinion about participants; or neutral opinion about participants
Public outreach	Request for attention; supplies; help; information; or other outreach
Linguistic features	Overt joke/sarcasm/irony[23]; swearing/cursing; slang; or other linguistic feature

[12]Example: @CDXXb3ll "RT @OperationLeakS: #OccupyWallStreet is this Saturday #Sep17 and WallStreet will never be the same. We are #Anonymous. We are the People ..."

[13]Example: @wenders1022 "I've been to PTA meeting of 10 where nothing can get done. Do the #occupywallstreet crowd really think they can strategize with bullhorns?"

[14]Example: @littlelisa8 "@partygnome: @SenatorSanders Can you give a shout-out to #OccupyWallStreet?" RT

[15]Example: @AnonyOps "Any bands want to bring equipment to wallstreet? We're going to need some jams. #occupywallstreet"

[16]Example: @outrage_molly "I am on-board! RT @TeacherWarrior: #occupywallstreet can we send food/pizza to protesters like we did in WI??"

[17]Example: @mmmousiebrown "how yall feeling about this #occupywallstreet thing?"

[18]Example: @jbrady77 "RT @LupeFiasco: Can't make it 2 NYC? Show ur support 4 #occupywallstreet 2morrow by making a sign, bumper sticker, tshirt, henna tattoo ..."

[19]Example: @wenders1022 "I hope the #occupywallstreet crowd isn't using Twitter to organize, considering Twitter is a corporation & therefore evil."

[20]Example: @Hippy4Humanity "RT @sonyazink: that #gov that claims to represent me can #kissmylilywhiteass ;) #occupywallstreet #hunnyhug"

[21]Example: @littlelisa8 "#OccupyWallStreet I'm getting some foul American hate tweets from Americans!! U don't scare me n u certainly won't stop me!"

[22]Example: @AnonPanama "MAÑANA POR LA NOCHE TOMAREMOS WALL STREET #Occupywallstreet medios esten atentos... @tvnpanama @Telemetro @IvanDonosotv @mariapiazubieta"

[23]After going through the coding test, the research team opted to collapse two subcategories together: overt joke and sarcasm/irony. With five different coders of various backgrounds, there was significant difficulty ensuring similar coding on the issue of jokes versus sarcasm (Intercoder reliability $\alpha < 0.5$). Personal senses of humor and the vague nature of the tweets made it difficult to interpret accurately, resulting in the decision to unite subcategories under one heading to reference all humor related tweets. The goal of identifying the amount of tweets utilizing humor would still be met, even without separating the two types of humor.

unit analysis. The primary researcher developed themes using the research questions, and expanded the list as the coding team identified additional thematic content. The final list included 11 themes: expressing anger towards the "system," expressing anger toward business/corporation, expressing anger toward the government, mobilizing by requesting for more participation, mobilizing by negative statements of non-participants, expressing well-wishes to the participants, objective, praise of the event, comedic, critical, and other.

Expressing anger towards the "system" included any anger towards the structure of society[24]. Expressing anger towards business/corporation was similar, but with anger aimed at the economy or large businesses[25]. Expressing anger towards the government included political parties, politicians in specific, police, or the military[26]. When coding for mobilization through the request for participation, coders focused on direct requests for participation[27] or subtle appeals for people to come join the event. Coders also included reminders about the event or sharing the schedule with positive affirmation of the event. With mobilizing through negative statements of non-participants, coders looked for passive-aggressive requests for participation, typically by insulting or making derogatory statements about people who did not, or would not, participate[28]. Expressing well-wishes involved encouragement towards the participants, or wishing them well in their endeavors[29]. Objective tweets were those that were typically strictly relaying information or referring to outside sources, like news stories[30]. Praise of the event meant that the tweet included praise of the event itself[31]. Comedic tweets were those that talked about the event or participants in a comedic way, including pop culture references[32]. Critical tweets were ones that expressed criticism of the event or participants[33]. Lastly, tweets classified as "other" were those that did not fit any other category[34].

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[24]Example: *@USDayofRage* "*Billions of dollars. One objective. Co-opt elections and tax payer dollars for their gain. #usdor #sept17 #occupywallstreet*"

[25]Example: *@whatzaname* "*RT @BABYDIABOLICAL: We Are The 99% that will no longer tolerate the greed and corruption of the 1%. #OccupyWallstreet bit.ly/o8XPqy*"

[26]Example: *@Hippy4Humanity* "*RT @sonyazink: that #gov that claims to represent me can #kissmylilywhiteass ;) #occupywallstreet #hunnyhug*"

[27]Example: *@littlelisa8* "*RT @partygnome: Fellow citizens of the world!! Find your voice and use it. Show your support for #OccupyWallStreet.*"

[28]Example: *@MrGlasco* "*#AnnoyingThingsPeopleSay 'I'm ready for a change!!' ...while taking no action -- #occupywallstreet*"

[29]Example: *@greenthumbnails* "*really proud of the people standing up for freedom this weekend. thanks :) #occupywallstreet #etc*"

[30]Example: *@SongofSongs1_2* "*US Day of Rage has 6 Protests in United States on #Sept17 http://t.co/udrNK6fM #occupywallstreet #usdor #occupywallstreet (@USDayofRage)*"

[31]Example: *@Deprogrammer9* "*RT @AnonNCarolina2: Remember, remember the 17th of September when Americans #OccupyWallStreet*"

[32]Example: *@ExJon* "*I can't get to Wall Street for the #DayOfRage, so I'll just stomp around my house growling, 'I'M SO ANNNGGGRRRYYY!' #OccupyWallStreet*"

[33]Example: *@wenders1022* "*I hope the #occupywallstreet crowd isn't using Twitter to organize, considering Twitter is a corporation & therefore evil.*"

[34]Example: *@ReverendManny* "*@sonyazink I'm deeply honored by your hugz! #wehugtheplanet #solidarity #occupywallstreet*"

2.5. Coder Training

The primary researcher conducted two training sessions with the coding team. During the first session, the team reviewed the codebook, sample tweets, and coded five samples together. Each team member was then given 20 tweets to code independently for assessing intercoder reliability. The primary researcher compiled the information and conducted a second training wherein differences were discussed and refinements for the codebook suggested. The team added a few rules and clarified some of the categories for coding, and repeated the process until the intercoder reliability achieved 0.91.

2.6. Analysis

Researchers split the 1500 tweets between a team of five coders. Coders used a coding handbook to analyze tweets based on the categories detailed previously. As researchers worked through the coding project, rules and suggestions were created to further enable consistency amongst the team. Coders utilized Microsoft Excel to compile the information, which was later input to SPSS for statistical analysis. The majority of the categories were not mutually exclusive, as tweets could contain multiple features and were examined for the presence of any of the variables of interest. The mutually exclusive categories included: originality (original content versus retweet), targeting (directed at another user or non-directed), the major category headings (as a function of total tweets), and the overall theme of the tweet. The subcategories beneath the major category headings were not mutually exclusive. Of the 1500 tweets coded, 3 contained a foreign language and were thus eliminated from examination to prevent inaccurate translations, resulting in 1497 total tweets coded.

3. Results

To provide an overview of the data, we examined general categorical information to capture some detailed information about the format of the tweets. We examined the originality of tweets, comparing original content to those that are retweeted from other users. The results showed that most tweets (61.2%) were retweeted messages, indicated that most users re-sent messages that others had written, rather than creating their own messages. A second category examined was that of targeting, where a user sends a directed tweet to another user using their screen name, or if it is just sent out to their followers as an open message. The majority of messages (68%) in this category were non-directed messages, meaning that they were sent out as open targeting. Lastly, we examined the referrals made within the tweets, specifically looking for weblinks, videos, or pictures. Some tweets in this category contained multiple referrals, so the counts are not mutually exclusive. In total, 581 tweets (38.8%) contained some type of referral. The primary type of referral contained a URL or hyperlink to another website (24.4%), followed by referrals to videos (13.9%). For more details, see Table 2.

Information Sharing and Public Outreach

To address the first research question regarding logistical information, coders analyzed

Table 2. General tweet characteristics.

Characteristic	N	(% of total tweets)
Originality		
Original Tweet	581	38.8
Retweet	916	61.2
Targeting		
Directed at Target	479	32.0
Non-directed	1018	68.0
Referral	**581**	**38.8**
Outside source: Link/URL	365	24.4
Outside source: Picture	84	5.6
Outside source: Video	208	13.9
No referral	918	61.2

tweets for several logistical information features. The features coded were date, location, time, and other, which included things like restaurant/hotel/bathroom locations and hashtags to follow for key information. Coders also examined the general information shared in the tweet, which included information about event consequences or impact, eye witness accounts, police and military activity, and other information like the reasons for the event or tools to use for sharing information with other participants. First, the primary researcher compared the different types of information sharing to see which was more prevalent: logistical information or general information. In answer to research question one, 43.5% of all tweets contained logistical information, which was consisted with the findings discussed by Ems [10].

To answer the third research question about general information sharing, 24.5% of all tweets were found to have those features. The highest percentage (9.3%) of tweets contained eye witness accounts of events as they were unfolding during the protest. The second highest (8.4%) were tweets detailing police activity. This is consistent with Erickson's [17] findings about citizen microbroadcasting, due to the eye witness accounts and related commentary to the event. Ems's [10] research indicated that the third highest theme in Twitter usage during protests was to share information about police activities. Our data indicated that only 8.4% of the tweets contained information about police or military activity, which means it is ranked fifth out of eight related categories with information sharing. For more information, see Table 3.

Coders evaluated for public outreach based upon five categories: request for attention, or appealing for retweets from followers and for national media attention; request for supplies, including food, materials or money; request for help, whether seeking to contact someone at the event, finding rides to the protest, or something else requiring another person's assistance; request for information, including seeking clarification or understanding about the event; and other requests not included above. In response to the second research question, we found that 16.2% of all tweets contained some type of

Table 3. Information sharing.

Characteristic	N	(% of all tweets)
Event logistics sharing	**653**	**43.5**
Provides date	522	34.8
Provides location	288	19.2
Provides time	148	9.9
Provides other logistics	67	4.5
General information sharing	**367**	**24.5**
Event consequences/impact	44	2.9
Eye witness accounts	139	9.3
Police/military activity	126	8.4
Other general information	75	5.0

public outreach. The highest percentage (10.6%) of tweets contained requests for additional attention. This included tweets requesting that followers resend a message, or with tweets that targeted mainstream media personalities or other celebrities, asking for them to pay attention to the event and send information to their own networks. See Table 4.

To evaluate the presence of affective news stream, coders examined the presence of opinions in each tweet. In addition to examining the existence of an opinion, coders differentiated between opinions about the event and about the participants. This subcategory was mutually exclusive. The results indicated that just over one-third (38.2%) of all tweets include some type of opinion sharing. The primary opinion shared amongst Twitter users was positive about the event (22.9%), followed by a positive opinion of event participants (7.3%). The results suggested that the majority of users who tweeted about Occupy Wall Street were supporters and not critics of the movement. See Table 5.

Twitter users have an imagined audience that impacts the word choice and linguistic markers of their tweets [14]. This is also a characteristic of community, in which members have a language to unite members of that community. To examine the linguistic features in the tweets, coders examined messages for humor (jokes, sarcasm, and irony), swearing/cursing, slang, and other markers. Slang included improper words or "text talk", abbreviated acronyms that aid in staying within the 140 character limit. For example, "ty" stands for "thank you." In total, 20% of the tweets contained some type of linguistic feature. The most common linguistic feature was slang (11.3%), followed by humor (8.9%). These results indicated that there is a specific lingo that is used in Twitter as part of the community. For more detail, see Table 6.

Thematic analysis provided a way to examine each tweet in a mutually exclusive way to identify the key frame in the tweet. To examine these themes, coders examined each tweet to identify the main content and purpose of the message. Comparing the themes provided a way to view the main point of each tweet about the protest, and to examine

Table 4. Public outreach.

Characteristic	N	(% of all tweets)
Public outreach	**243**	**16.2**
Request for attention	159	10.6
Request for supplies	20	1.3
Request for help	11	.7
Request for information	25	1.7
Other outreach	44	2.9

Table 5. Opinion sharing.

Characteristic	N	(% of all tweets)
Opinion sharing	**572**	**38.2**
Positive/affirming of event	343	22.9
Negative/critical of event	40	2.7
Neutral of event	17	1.1
Positive/affirming of participants	109	7.3
Negative/critical of participants	56	3.7
Neutral of participants	8	0.5

Table 6. Linguistic features.

Characteristic	N	(% of all tweets)
Linguistic features	**300**	**20.0**
Joke/sarcasm/irony	134	8.9
Swearing/cursing	19	1.3
Slang	169	11.3
Other	9	0.6

the efforts to dissent or create spaces of freedom. After comparing the information, the primary researcher combined similar themes to produce more comprehensive data, and eliminated themes that were not relevant to the study, like the "other" theme. In the end, the most common theme among the tweets was the objective theme (28.5%). This represented references to news stories, factual information, or other tweets that did not have any obvious opinion within the content. This indicated that the twitter users discussing the Occupy Wall Street primarily used it as a way to disseminate information, and less as a platform for opinions. The second most common theme was that of expressing positivity (24%), which would include positive opinions of the event and its participants, followed closely by mobilization (22.1%). See Table 7 for more information.

Table 7. Theme of the tweet.

Characteristic	N	(% of all tweets)
Objective	**427**	**28.5**
Express positivity	**359**	**24.0**
Praise of event	291	19.4
Express well-wishes	68	4.6
Mobilization	**331**	**22.1**
Mobilizing-request for participants	313	20.9
Mobilizing-passive aggressive attacks	18	1.2
Critical of Occupy Wall Street	**174**	**11.6**
Express anger	**144**	**9.6**
Express anger toward business/corporations	73	4.9
Express anger toward government	52	3.5
Express anger towards "system"	19	1.2
Comedic	**36**	**2.4**
Other	**26**	**1.7**

4. Discussion

The findings of this study expand existing literature on social media usage in protest movements by providing an analysis of the actual tweets versus news about the tweets, and by examining a large protest movement in the United States that was largely designed and orchestrated through online social media. Erickson [17] and Ems [10] both discussed the importance of sharing information through microbroadcasting and geographic distribution, and these findings corroborate those results while pointing out some salient differences. With almost half of all of the tweets using the #Occupywallstreet tag containing logistical information, it is clear that Twitter was used as an organizational tool to share information and coordinate efforts.

Ems [10] found three popular trends in twitter data when analyzing the news stories about protest movements. Her top three findings were that Twitter was used to "organize protests, get information to media outlets…or to avoid police in the streets" (para. 9). The findings of this study correlate in some respects, but contradict them in others. Logistical information accounts for a large number of tweets (43.5%), which correlates with her first theme. Ems found that the second theme was reaching out to media. The results of this study indicate while media outreach accounted for some tweets (10.6%), by far the next highest category was that of opinion sharing (38.2%). This indicates a difference between these two studies. The third theme Ems discussed was that of police activity. While this is the second highest type of general information sharing, it only represents 8.4% of all the tweets. There are other categories with far more representation. While not completely negating the results of Ems study, our findings do show some interesting differences. This would indicate that the type of protest event being

organized may encourage different types of information to be shared.

One of the unique aspects of Twitter is the ability to engage with other users, celebrities, and mass media personalities. This enables users to target messages at individuals deemed influential, who can disperse information or provide additional resources. In our findings about public outreach, seeking attention accounted for 10.6% of all tweets, and was by far the highest type of outreach within that category. Users sent tweets to individuals like Oprah, CNN News, Conan O'Brien, and other media personalities with pleas for retweets, media attention, and financial support. Whether this tactic is effective or not, clearly these users view these individuals as an imagined audience, regardless of the actual attention paid to those tweets [14]. The results of this study indicate that Twitter can be used as a tool to send information, but also a tool to solicit attention, assistance, and support for a movement.

Opinion sharing is certainly an important feature of using Twitter during a social protest, though this study did show some interesting results in terms of the main opinions expressed on the hashtag. While tweets are public and accessible by anyone, the primary opinions expressed using this hashtag were those supporting the movement itself. Of the 572 tweets with opinions, only 96 (16.8%) of them were critical of the event or the participants. While there is this presence, the vast majority of opinions expressed are in support of the protest and its participants. When combined with the theme analysis, these results indicate that individuals who disagree with the movement are not nearly as active as those who are supportive, at least in using the organized hashtag. This could be tied to the idea of affective news stream [7]. This study finds that opinion sharing is a high percentage of the overall tweets (38.2%). Most people express the same type of opinion, which correlates with what affective news stream says about creating community, and thus framing an issue in a particular way.

Another feature of community presence is a cohesive linguistic similarity, with results showing 20% of all tweets containing linguistic markers, and slang being the leading element of that. In addition to common linguistic features, this community also showed a high number of retweeted messages. Due to the majority (61%) of the messages being recycled content, this indicates that users identified with things other people were posting, and reutilized them in their own network of followers. Rather than crafting their own messages, they rely on fellow community members for content to share with their followers.

In addition to having a strong community element, the Occupy Wall Street movement could be seen as an attempt to move utopian rhetoric into a rhetoric enacting actual change by creating a physical space in which to defy existing power structures. Through the creation of a community of followers who are in agreement with one another, as seen in the high positive opinions expressed via Twitter, the protestors shift from an online medium that may be incapable of establishing a physical dissent to one located in a particular space. They enact a form more similar to agonistic rhetoric, wherein they construct "ritualized conflict with an established order" (p. 184) [18]. There is evidence for this in the large number of tweets (43.5%) containing logistical

information needed to participate in the event, along with the 22.1% of tweets aimed at mobilizing participants.

Overall, the results of this study support some findings in previous studies, but also show some unique features that may be tied to the type of protest movement itself. Our findings indicate that Twitter is a tool primarily used for sharing objective, logistical information, along with opinions, to create a unified community and mobilize individuals to participate in a physical space of protest.

5. Limitations

Some limitations of this study are associated with the internet medium. First of all, the information provided in the tweets cannot be guaranteed to be accurate. As Goolsby [23] found, tweets can be "misleading, incorrect, or even fraudulent" (cited in Murthy [12]). There are also no guarantees that the individuals posting are who they say they are, nor that they are doing what they say they are doing. Without contacting each user individually, it is impossible to know if they acted on the things that were tweeted. Another limitation is the date rang and sample of 500 tweets of each day. Future research should look at a longer time span, and a larger sample of tweets. Also, the choice of the hashtag could unintentionally exclude tweets that were related to the Occupy Wall Street movement. While we used the official hash tag, there is always the risk of missing relevant data when utilizing online social media.

6. Future Research

The usage of social media in protest movements is an expanding field, and one with rich amounts of data and research opportunity. Future research should explore more information about the effectiveness of using social media in the engagement of civic participation. It is difficult to track whether users who tweet about protests actually participate in the movement itself. It would be valuable to see if the way that Twitter is used is actually successful in generating more participation, identification, or involvement in the protest.

Other forms of social media should also be examined. With the advancement in smart phone technology, people have greater ease and mobile access to the internet and social media tools. With the shift in access moving from laptops to smart phones, issues of community development and imagined audiences may be shifting. Future research should explore these areas in more detail. As Tufekci and Wilson [24] note, research on social movements should also look at the contextual information when researching protests. Each protest takes place within a particular time and political setting, which is an equally important aspect of community as that generated on the internet [24]. Rather than studying social media in isolation, more research should be done that combines an analysis of the offline aspects in conjunction with online research. While these topics were outside the scope of the present study, they would provide valuable insight into social media and its impact on the way people organize and engage with protest movements.

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