Collective Identification, High Risk Protest, and Social Media Use in the Occupy Wall Street Movement

Nina Cesare

A thesis
submitted in partial fulfillment of the
requirements for the degree of

Master of Arts

University of Washington

2013

Reading Committee:

Paul Burstein, Chair

Tyler McCormick

Program Authorized to Offer Degree:
UW Sociology

University of Washington

Abstract

Collective Identification, High Risk Protest,
and Social Media Use in the Occupy Wall Street
Movement

Nina Cesare

Chair of the Supervisory Committee:
Associate Professor Paul Burstein
Department of Sociology

Existing literature suggests that online spaces may be less effective than face-to-face communication at promoting a sense of collective identification among social movement participants. These studies, however, do not take into consideration how this effect varies according to the online platform used. Furthermore, considerations of how online communication influences symbolic interpretations of the movement often do not empirically link these interpretations to differences in protest outcomes. Using data collected from Occupy Wall Street supporters, this study will explore the way in which mode of communication influences the degree to which movement participants are able to develop a sense of collective identification by analyzing how a.) reasons for participation and b.) engagement in high risk protest activities vary according to the mode of communication used by the participant to gather news about the movement. These outcomes are intended to help social scientists better understand how the use of technology that seems to lower the cost of communication between social movement supporters impacts symbolic motivations for participation and protest outcomes related to these symbolic interpretations.

TABLE OF CONTENTS

Page

INTRODUCTION

It is difficult to deny the growing popularity of online spaces as tools for promoting collective action and social change. A number of movements have begun to utilize the effort-saving tools associated with digital activism and promote interaction between members within online contexts. Nonetheless, some have begun to question whether interaction via online spaces is actually on par with face-to-face communication in regards to its ability to successfully mobilize social movement supporters. One area in which scholars suspect interaction through online spaces may be less effective than face-to-face communication is in its ability to promote among participants a sense of collective identification (Ayers, 2003; Bimber et al. 2005; Lomicky and Hogg, 2010; Joyce, 2013; Bennett and Segerberg, 2013). Not only are online spaces potentially less effective at promoting the continuous, transparent, identity-consistent communication needed to foster strong, positive emotional connections with within the group (Kollock, 1999), the ability to personalize content within these spaces may inhibit the development of collective action frames and promote instead "personal action frames" (Bennett and Segerberg, 2013). If it is true that online spaces are less effective at promoting a sense of collective identification among participants, it may also be true that they are less effective at encouraging individuals to engage in high risk protest outcomes since high risk protest depends on the presence of strong emotional ties within the movement. This study examines these possible effects of online communication on social movement trajectory using survey data gathered from supporters of Occupy Wall Street - an ideologically and geographically disperse movement characterized by a highly visible and varied web presence. In addition to this, it builds upon existing research by considering how the effect of online communication on the promotion of collective identification and engagement in high risk protest varies by site instead of analyzing the online spaces as a monolithic whole.

This study begins by introducing collective identification as manifested in two unique but interrelated ways: as a shared interpretation of the movement and its objectives and as a sense of emotional engagement with the group (Mellucci, 1988; Klandermaans and de Weerd, 2000; Poletta and Jasper, 2001). It then links collective identification to engagement in high risk protest and discusses in detail the impact that communication within online spaces may have on these outcomes. The first portion of the analysis provides insight into the cognitive cohesion aspect of collective identification by examining how participants' preferred mode of communication (i.e. word-of-mouth vs. online spaces) impacts their ability to develop a shared interpretation of the movement and their reasons for participating in it. The second portion of the analysis will consider differences between online oriented and offline oriented groups in regards to their engagement in high risk protest. Existing research indicates that emotional bonds within the movement and past movement involvement are good predictors for engagement in high risk protest (McAdam, 1986; Goodwin and Pfaff, 2001). By developing models that measure participation in high risk activism and control for members' past movement involvement, this study will not only contribute to existing literature by directly linking social media usage to protest outcomes, but also suggest the possible presence of a relationship between emotional engagement and digital media usage.

Modes of communication highlighted in this analysis include word-of-mouth communication, Facebook, Twitter and Tumblr. The online spaces included were chosen due to their ability to parallel face-to-face interaction to some degree. All are defined as *social media* spaces - and are characterized by the ability to promote user-to-user communication and allow users to develop a public or semi-public personalized profile within a bounded social space (boyd and Ellison, 2007) . While this group of sites collectively focuses on interpersonal sharing, each individual site has unique tools or affordances that may impact its ability to promote collective identification and engagement in high risk protest in different ways. Facebook, for example, has a unique interface that is effective at allowing users to follow and contribute

to ongoing conversations about movement-related issues and events. Twitter's uniqueness stems from its mobile-ready interface and sparse content. Tumblr parallels Twitter in structure, but allows users more flexibility in how they chose to share (i.e. through extended text posts or multimedia). Although more work must be done to better understand the "web culture" that characterizes each site (Hwang, 2010), the discussion of results will speculate how website structure and user experience may contribute to the outcomes analyzed.

Collective Identification and High Risk Activism

There are a number of perspectives from which social movement scholars examine the emergence and growth of a social movement. Some choose to focus on how the political opportunities afforded by the environment in which the movement emerges help it gain active support. Others focus on the how the movement utilizes the mobilization of resources to successfully grow. This study will take a social-psychological approach to understanding social movements and focus on individually interpreted, non-structural motives that drive members to transform themselves from passive movement supporters to actively engaged members. It will consider the role that immaterial, symbolically significant "soft incentives" such as emotion, solidarity, and identification have on this process (Opp, 2009), and explore the way in which the use of new communication technologies impacts the development of these incentives. Specifically, it will address the role of collective identification in social movement trajectory and examine protest outcomes likely linked to this factor.

Collective identification is a social psychological motive described in social movement literature as having two key, interdependent manifestations: a sense of moral, goal-oriented, and strategic cognitive consensus with *and* an emotional connection to a bounded group (Mellucci, 1988; Klandermaans and de Weerd, 2000; Poletta and Jasper, 2001). The development of collective identification is the outcome of a process of communication that occurs with a network of active relationships. Shared interpretations of the movement help members

maintain a sense of unity, collectively recognize the agent of their aggression, and successfully mobilize against it. The cognitive and emotional connection they develop toward the group and the members within it acts as a select inventive; in return for contributing, the individual enjoys feelings of belonging within the group. In this way, collective identification "is a goal as much as a means" of being involved with a social movement (Jasper, 2011).

One potential outcome of a movement successfully promoting a sense collective identification is an increase in member commitment. According to Hunt and Benford (2004), collective identity increases the bonds between movement members and the leadership structures, belief systems, and rituals of the organization itself. Internalizing the normative framework of the organization is a key step in ensuring that members are able to contribute lasting, cooperative contributions of time, energy and resources toward the movement (Hechter 1987; Polletta and Jasper 2001; Postmes and Brunsting 2002; Carty and Onyett 2006; Lasar 2009). In regards to their relationships with other members, building commitment also coincides with members perceived embeddedness within the group and increases his or her sense of duty to the group and the members within it. Overall, establishing a strong sense of collective identification within the group helps build group cohesion and promotes the internalization of group norms. In doing so it increases the level of commitment among group members.

The feelings of connectedness that characterize collective identification can be linked directly to engagement in high risk protest activity. Although the role of emotions in political participation is often ignored, a number of scholars claim that feeling a sense of emotional connection to a group and to other members within the group is both a reliable motivator for engaging in group activities, as well as a sought-after return for this engagement (Jasper, 2011; Nepstad and Smith, 1999; Goodwin and Pfaff, 2001). In terms of high risk protest specifically, McAdam (1986)'s study of Freedom Summer participants found that the presence of strong ties to other movement participants was an accurate predictor of whether

or not individual members would engage in these activities. Likewise, Goodwin and Pfaff (2001)'s study of the U.S. and East German civil rights movements identified the presence of intimate social networks within the movement and a strong feeling of identification with the group as a whole as mechanisms to encourage engagement in risky - and at times fear-inducing - forms of activism. Overall, evidence suggests that if there exists strong cohesion within the group as a whole, then one would expect group members to display a greater tendency to engage in high risk activism.

The Growth of Digital Activism

Existing research points toward the promise of online spaces as tools to promote civic and political engagement. Scholars have cited a number of contexts in which digital media have assisted grassroots collectives, government campaigns, and other organizations in fostering civic engagement. Both Williams and Gulati (2008) and Castells (2009), for example, point toward the development of an interactive social media space as a key element in the success of Barack Obamas 2008 campaign. Tumasjan et al. (2011) examined discourse surrounding the 2010 German presidential election and found that the ideological distribution of tweets referring to parties and candidates paralleled offline patterns. Overall, research suggests that online spaces are not filled with "pointless babble" (boyd, 2009), but are in fact respected outlets for individuals to connect with one another and engage in substantive conversation on issues of social and political importance.

The growing popularity of online spaces as outlets for social change may be attributable to a number of factors. For one, internet usage is becoming increasingly prevalent worldwide. As of 2013, nearly 40 percent of world citizens are self-reported internet users (International Telecommunications Union, 2013). In addition to this, online spaces have become increasingly user-friendly, making it easy for potential activists to become involved in established online groups. Overall, growing numbers of individuals are finding their way online and

are using these tools to exchange information about matters of civic and political importance. In addition to their popularity and accessibility, the democratic structure of online spaces encourages individuals to contribute to broad conversations about particular issues or events and even communicate directly with persons or entities of interest related to these topics. As a result of these factors, platforms such as Facebook or Twitter are considered by many to be a "microphone for the masses" - outlets where individuals can quickly and easily express themselves and interact with others regarding civic matters (Murthy, 2011).

Digital activism can take many forms. Online spaces can enable activist engagement by spreading information about the movement, distributing polls and surveys, allowing members to donate to the organization, informing members about offline events, or helping members contact the individuals and organizations from whom they seek change (Aichholzer and Allhutter, 2011). Some actions can be carried out individually; others encourage user-to-user interaction. The flexibility of online spaces allows online protest to take more non-traditional forms as well, such as encouraging users to change or alter their profile pictures to show solidarity for a particular movement, contacting an organization directly via their own social media profile (for example, tweeting "at" a person or organization of interest), initiating a viral campaign, or any form of "hacktivism," such as online sit-ins and web page defacement (Vegh, 2003; Kavada, 2010). Overall, the time and location related convenience of online spaces – as well as the non-hierarchical structure and low transaction costs that characterize interaction within online spaces – afford activists a high level of creativity and efficiency in designing and carrying out protest actions online and offline.

Among the most important developments in the use of online spaces for social change has been the expansion of social media spaces as tools for activism. Prominent examples of this development include the 2008 Barack Obama campaign's use of a Facebook-like social media space as a tool for developing and maintaining a network of supporters (Williams and Gulati, 2008), and Arab Spring protesters' use of Twitter as a microphone for discontent. It

has been suggested that these spaces help lower the cost of coordination and commitment for participants by providing them a quick and centralized source of information about the movement and allowing them to learn about receive feedback from their fellow participants (Diani, 2000; Mele, 2002: Gil de Ziga, Jung and Valenzuela, 2012). By facilitating diverse pathways of communication, interaction within social media spaces may foster a defined sense of dissatisfaction within the group and allow those who are dissatisfied to exchange information and/or coordinate offline events (Joyce, 2013). Because of these suggested advantages, a number of movements have either developed social media-like platforms of their own or have created profiles on existing social media sites such as Facebook or Twitter.

The Emergence of "Connective Action"

The emergence of digital activism has caused some to reconsider whether tenets of traditional social movement theory hold true within online spaces or whether the dynamics of digital activism are fundamentally different than those of movements that do no utilize digital technology (Joyce, 2013; Bennett and Segerberg, 2013; Lomicky and Hogg, 2010; Bimber et al. 2005). With the rise in online communication the environment in which activists interact has changed, and many suspect that this change has altered the within-group dynamics of the movement. There are some similarities between traditional movements (i.e. movements that utilize offline communities and/or word-of-mouth communication as a means of recruiting members and coordinating actions) and movements that rely on digital media. Both involve similar actors (claimants, targets) and similar processes (mobilization, coordination) (Joyce, 2013). As a result of this, analyses of early digital activism were treated as an extension of traditional social movement theory. Nonetheless, online spaces seem to have brought traditional activism into a new social context and scholars are drawing upon though not always directly utilizing traditional social movement theory to map this potentially new territory.

One notable distinction between traditional social movements and movements that utilize digital media relates to the direction that online-oriented movements receive from formal organizational structures (Kavada, 2010, Dunn, 2012, Bennett and Segerberg, 2013). The lack of oversight present within online spaces has facilitated the creation of social movement networks that are highly decentralized and lack a visible hierarchy. This phenomenon has led to the proliferation of grassroots expression and the development of what Castells (2011) refers to as "interactive, horizontal networks" characterized by "self communication" or the ability for participants to be both senders and receivers of group messages (4). As this ability to both project and take in information indicates, movements within online spaces are remarkably democratic; the cost of both finding and contributing information is extremely low for all members, as well as a broad audience of potential sympathizers (Mele, 2002).

Although the decentralized, democratic structure of online-oriented social movements has advantages, some have suggested it may negatively impact the development of collective identification in the form of a shared understanding of the movement and its objectives. As described by Kavada (2010), discussion within online spaces is often characterized by the presence of "open narratives and inclusive stories" that focus on general issues but permit a high level of personalization (114). Given this, it is likely that collective identification within online spaces has been reduced to memes - symbolic packets that travel easily across large and diverse populations because they are easy to imitate, adapt personally, and share broadly with others (Bennett and Segerberg, 2012: 7). In support of this, Nip (2004) found that online bulletin boards for the Queer Sisters movement were adept at spreading objective information but did little to help participants develop a sense of cognitive togetherness and collective familiarity with the philosophy of the movement. Overall, it is possible that online-oriented movements' lack of reliance on a formal organizational structure increases the capacity for self-expression and reduces the importance of collective framing as a tool for enticing contributions from participants (Castells, 2007; Bennett and Segerberg, 2013; Joyce, 2013). While general themes may consistently emerge as motivating factors for large

numbers of participants, these themes may be adjusted and reinterpreted to fit members' personal motivations. As a result of this, online-oriented participants contributions might be guided more by their personal concerns than the group's collective objectives (Bennett, 2003; Bennett and Segerberg, 2013).

Some have suggested that the unique dynamics of interaction within online spaces may negatively impact the ability of social movements to successfully promote collective identification in the form of emotional connectivity as well. Kollock (1999) suggests that several features are essential for the construction of a strong cooperative community: ongoing interaction, identity persistence, and knowledge of previous interactions. Because online spaces - social media spaces included - may be less effective at promoting all or some of these dimensions, they may be unlikely to foster strong, meaningful interpersonal connections within networks of activists. Ayers (2003) validates this point by using observation and qualitative analysis to compare indicators of emotional cohesion between feminist activists who communicated either through face-to-face communication and/or a discussion-based web platform. In general, this study found that online-oriented activists tended to isolate their engagement with the group online and took less of a personal interest in the objectives of the movement as a whole. Communicating with participants offline, however, helped solidify member-to-member relationships and prompted participants to become more deeply engaged with the movement. In addition this, while some view the democratic structure of online spaces as a benefit to civic and political engagement, others have nonetheless speculated that the broad audience and unsupervised structure of online discourse necessitates the development of within-group divisions as a means of paring discussion down to a smaller, more manageable and less noisy scale (Mele, 2002; Hwang, 2010). These divisions may hinder the development of feelings of intra-movement connectedness that characterize collective identification.

Given the suggested lowered effect of collective identification within online spaces, it is expected that members who frequently use online spaces to communicate with other par-

ticipants are less likely to engage in high-risk activism as well. As suggested by McAdam (1986) and others, strong ties with other activists - particularly those who engage in high risk protest themselves - as well as strong sense of emotional commitment to the movement itself are significant predictors of engagement in high risk activism. If online spaces do inhibit the development of collective identification among participants then it is unlikely that strong ties will form among participants, thus eliminating connections with high risk protesters as a means of motivating similar engagement among other members. In addition to this, reducing collective identification in the form of emotional connectivity may reduce feelings of personal commitment and duty to the group that might otherwise motivate high risk protest activity. Overall, while online spaces may effectively promote low-risk activism or "slacktivism" such as changing one's profile picture or signing an online petition, they may not foster the meaningful connections necessary to encourage participation in more risky activities (Diani, 2000; Rotman et al., 2011).

Not All Sites are Created Equal

Current literature suggests that communication through online spaces may impact social movement trajectory, particularly in regards to the movement's ability to foster a sense of collective identification among participants. This literature, however, generally does not take into consideration the relative capacity of *specific* websites to promote a sense of collective identification. The tools for self presentation and interaction contained within web pages - otherwise known as *affordances* - vary by site. As was explained by Latour (2005) and restated by Bennett and Segerberg (2013), "digital mechanisms may include: organizational connectors (e.g. web links), event coordination (e.g. protest calendars), information sharing (e.g. YouTube and Facebook), and multifunction networking platforms in which other networks become embedded (e.g. links in Twitter and Facebook posts), along with various capacities of the devices that run them" (43). This array of tools may vary in regards to how well they facilitate different dimensions of information sharing and interaction.

Likewise, self-presentation within online spaces sites is a a subsetted or abbreviated version of self presentation in real life (Hogan, 2010), but the level of abbreviation required varies site by site. Thus, online spaces should not be viewed by the researcher as a homogeneous entity but instead as unique cases for investigation (Ayers, 2003: 281).

Even if studies limit the focus of their analysis to social media sites – sites similar in that they allow users to "(1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (boyd and Ellison, 2007: 211) – it is still necessary to draw distinctions between different platforms. Not only do sites within this broad class of online spaces differ in regards to their structure and the affordances they offer, but the way in which users interpret the space and create social structure within it varies by site. As suggested by Papacharissi and Easton (2012), social media spaces constitute a "habitus of the new" - spaces in which expectations and norms are constantly evolving alongside individuals' expressions of agency within the space. These authors indicate that within each site emerges a unique set of collective dispositions that are influenced by the architecture of the sites themselves, and that these dispositions "frame but also constantly invite" reinterpretations of individual agency (Papacharissi and Easton, 2012: 2). In sum, social structure and individual agency in social media spaces are evolving, but this process of evolution varies by site. Thus, social media sites should be viewed as unique environments both in terms of structure and culture.

DATA AND METHODS

The following analyses seek to determine whether the channel through which a social movement supporter communicates with other movement members - either face-to-face communication or select online spaces – impacts the level of collective identification perceived by the participant and/or his or her probability of engaging in high risk activism. It will use as its case study Occupy Wall Street - a movement known for its democratic structure, geographically and ideologically disperse supporters, and broad web presence. Born of anti-establishment ideals, Occupy members reject the imposition of a top-down system of control in favor of consensus-based decision making. To solidify this objective, Occupy published its "Principles of Solidarity" online in September of 2011. These principles emphasize the importance of features such as "transparent, participatory democracy,...collective responsibility," and "making technologies, knowledge, and culture open to all to freely access, create, modify, and distribute." (New York General Assembly, 2011). In keeping with its decentralized nature, Occupy has distributed its web presence across Occupy specific websites as well as multiple social media platforms.

Sites chosen for analysis include Facebook, Twitter, and Tumblr. These sites were selected primarily because they represent a particular class of online spaces - social media sites. If an individual gathers news about the Occupy movement through these channels, it is assumed that he or she does so because information was transferred through another social media user profile and that he or she has the opportunity to engage in dialogue regarding this information. In this way, communication through these sites is intended to parallel that of face-to-face communication. In addition to this, Occupy maintains a strong presence on all of the platforms mentioned. Facebook stands out as perhaps the most popular outlet for Occupy related communication. In 2011 at the height of the movement's activity, it was

estimated that there existed about 408 Occupy Wall Street related Facebook pages, 38 of which are national rather than regional and claim approximately 25,866 active members in total (Caren and Gaby, 2012). Twitter has become a popular communication outlet for social movements, as its mobile-ready interface allows supporters to update one another on news and events in realtime. Tumblr was used as a launching point for the "We Are the 99%" campaign. Supporters were encouraged to post pictures of themselves holding written signs describing their personal reasons for supporting the movement and submit them to be displayed on the site.[1]

The data for this study come from the Occupy Research General Survey (ORGS)[2] distributed by Occupy Research in collaboration with DataCenter to Occupy supporters within the United States. Occupy Research is a collaborative, web-based organization through which scholars can share current and future research regarding the Occupy Wall Street movement, as well as data related to the movement - all of which is publicly available via the group's blog. The ORGS was distributed online using a mixed method sampling design that combined systematic Facebook outreach with snowball sampling through email and other social media sites. The survey description and link was posted using an iMacros script to 883 Occupy related Facebook groups identified using the B.E.S.T. database.[3] The survey description and link was also sent to 505 email addressed associated with Occupy (also found through the B.E.S.T. database) and posted on the homepage of the popular Occupy organizing website occupytogether.org. Finally, Occupy Research members were asked to distribute the survey to independently through professional networks, blogs, and social media sites. Responses were gathered from December 7th, 2011, to January 7th,

[1] http://wearethe99percent.tumblr.com/

[2] Data are available for public download through the Occupy Research homepage: www.occupyresearch.org

[3] The B.E.S.T. database is a comprehesive collection of all Occupy related groups on Facebook. It can be accessed via the following URL: https://docs.google.com/spreadsheet/ccc?key=0An-AlITWCO8dHJjVlplQklhOWNxR1YzQmZXaWN3TkE#gid=0

2012. Overall, 5074 surveys were completed. Approximately 5040 (99.3%) of these surveys were completed online.

The ORGS survey contains information regarding Occupy supporters' involvement with the Occupy movement, their means of communicating with other participants, their engagement with other organizations (religious, civic, athletic, etc.). It also features respondents' demographic information, including age, race, sex, sexual orientation, marital status, educational attainment, employment status and income. Finally, it includes information on the political affiliation of the respondent and whether or not he or she voted in the 2008 presidential election. Although the survey does not directly examine participants' perceptions of inclusion or emotional engagement within the group, it does contain information on the respondents' reasons for participation in the Occupy movement in the form of three self-generated words.

Because the majority of the surveys were completed online, the results of this survey are not representative of the population as a whole, but instead are representative of Occupy supporters how have some form of internet access. This bias, however, is not expected to negatively effect the study's capacity to explore in a general sense core questions regarding how mode of communication impacts individuals' ability to develop collective identification and engage in high risk protest. For one, the proportion of American adults who regularly access the Internet either through desktop computers, laptops or smartphones is increasing steadily. According to the Pew Internet and American Life project, from June 2000 to August 2011 alone the percent of Americans adult men and women who claim they access the internet at least sometimes increased from 47% to 78% (Pew, 2012). Furthermore, the same Pew study found that 94% of individuals ages 18-29 and 87% of individuals ages 30-49 report using the internet - an age distribution well represented within the ORGS. Finally, because online resources played a significant role in the development and coordination of Occupy protest actions (Bennett, 2012; Caren and Gaby, 2012), we may assume that representing

only those supporters who access online spaces will not render invalid the conclusions drawn by this study.

As mentioned previously, Occupy offers researchers the unique opportunity to observe how social movement outcomes vary according to the platform used. The sites included in this analysis are Facebook, Twitter and Tumblr. All were chosen due to fact that their structure motivates interaction; users are encouraged to develop personalized profiles, connect with one another, and/or exchange information about the movement. In this way they parallel the capacity of face-to-face communication as a tool for promoting engagement with the movement, though each site's structure places unique restraints on communication (Kollock, 2002). Participants were not asked to state *how frequently* they use each of these modes of communication; instead they were asked to report the last time they have used each. It is assumed that those who reporting using a particular mode within the past 24 hours are frequent users, those who report using it within the past week are moderate users, those who report using it within the past month are light users, and those who report using it more than a month ago are very light users. Although this is an indirect way of measuring communication usage, the phrasing of the question should not place strain on respondents' memory and is expected to produce accurate results.

Prior to analysis, issues related to missing values needed to be addressed. Scholars identify three primary types of missing data. The type first is data that is *missing completely at random* (MCAR), meaning that responses that are missing for a particular question are not associated with the respondents' responses to other questions. Data that are MCAR may be generated through equipment malfunction, incorrect data entry, or response oversight on the part of the respondent. Data that is *missing at random* (MAR) is "ignorable missingness" that occurs when missingness in one variable is associated with responses to another, but *not* after controlling for confounding factors. Data that is *missing not at random* (MNAR) are missing due to observations that depend on the unseen data itself. For

example, if a researcher is studying individuals who are depressed, he or she must take into consideration that depressed respondents may be less likely to report their mental health statuses and adjust the data according to this bias (Howell, 2012). Depending on the type of missingness found in the data, simple listwise deletion may be sufficient as a means of handling missing cases or more advanced methods of multiple imputation may be required. Thus, understanding why responses are missing within the ORGS data and testing alternative means of handling this missing data are vital steps toward generating an accurate depiction of relationships within the data.

When considering the issue of missingness it is important to note that the ORGS survey was distributed primarily via online platforms. Although online surveys are a convenient means of accessing an otherwise hard-to-reach population with access to the internet (Selm and Jankowski, 2006), there are particular challenges associated with this form of data collection. For one, calculating the response rate for the survey can prove impossible for the researcher, as he or she cannot know how many individuals saw the survey but did not elect to take it (Selm and Jankowski, 2006). Among those who do elect to take the survey, the way in which the survey is visually structured strongly impacts the amount of item-missingness - or questions left blank - in the data. Although scrolling versus paging the survey does not have a noticeable impact on item-missingness (Peytchev and Couper, 2006), previous research has determined that providing clear and thorough progress indicators in the survey does help ensure higher per-question response rates (Couper, Traugott and Lamias, 2001).

Feedback from respondents suggests that a lack of sufficient progress indicators in the ORGS survey caused item-missingness in the data. One respondent stated: “Instrument seems (a) comprehensive (b) a bit long.” Another respondent highlighted the lack of progress indicators by writing: “It would be nice to know how many more pages there are to go when filing this out.” Given that respondents seem to have skipped questions out of a desire to save time rather than as a result of the content of the questions themselves, we may assume that

the data are likely MCAR. While this type of missingness reduces the power of the resultant analyses by reducing the number of usable cases in the data, it is not expected to bias the coefficient estimates. In order to confirm this, data were imputed using the R package *mi* and identical models were run using both listwise deletion and the imputed data. Coefficient estimates for both models were determined to be similar enough to confirm that the data are in fact MCAR. Given this, listwise deletion was determined to be an acceptable means of handling the missing data.

The first portion of the analysis focuses on the relationship between mode of communication and perceptions of collective identification in the form of a shared understanding of the movement and its objectives. Existing literature suggests that online spaces are less effective at breeding collective identification and instead motivate participants to develop unique, personalized reasons for participation (Bennett, 2003; Bennett and Segerberg, 2013; Wall, 2007). We expect, then, that those who rely heavily on social media spaces are less likely they are to share a common interpretation of what Occupy stands for with their fellow participants than those who communicate via word-of-mouth. Given these expectations, the analysis will divide up the reported reasons for participation into four corpora: responses from those who report using word-of-mouth communication, Facebook, Twitter or Tumblr to gather news about the organization within the past 24 hours. The level of cohesion within each group's responses - as measured by how many words appear a certain number of times - is assumed to reflect the sense of collective identification perceived within the group. In addition to cohesion, the content of the responses within each group will also be considered.

The second portion of the analysis considers differences between online oriented and offline oriented groups in regards to their engagement in high risk protest. High risk protest activities, in this case, are defined as activities in which the participant may anticipate personal harm (McAdam, 1986). In the case of Occupy, attending or spending time at an Occupy camp may be considered the riskiest form of protest widely available to participants.

Though conflict at camps was relatively rare, there were reported instances of drug distribution, sanitation problems, and crime at these locations. Occupy Salt Lake and Occupy Salt Lake, for example, were the site of protester deaths due to carbon monoxide poisoning and gun violence, respectively (BBC, 2011; Reuters, 2011). As mentioned previously, research suggests that those who engage in high risk protest activities perceive a strong sense of collective identification and are "deeply committed to the ideology and goals of the movement" (McAdam, 1986: 71). Given this, it is expected that online communication will be less effective than word-of-mouth communication in motivating high risk protest. While this outcome is not an ideal indicator of collective identification, these models will a.) *suggest* the presence or absence of a relationship between online activity and emotional engagement with the organization thus providing a foundation for further analyses of the relationship between these factors and b.) build on existing digital activism literature by directly linking social media usage to specific protest outcomes.

RESULTS

The first analysis focuses on the ability of social media sites - in comparison to one another and in comparison to face-to-face communication - to foster the development of collective identification in the form of cognitive cohesion. For this analysis, survey participants were broken into four groups indicating high usage of either word-of-mouth communication, Facebook, Twitter or Tumblr. High usage is defined as the respondent having indicated that he or she used this source to gather news about the Occupy movement within the past 24 hours. Note that these groups are not mutually exclusive, but they do effectively capture respondents who are actively engaged within each communication-based community. Respondents were asked to list three separate reasons for participating in Occupy within the survey. While the survey question requests one word responses, some responses do appear in the form of phrases and sentences. Responses for high word-of-mouth, Facebook, Twitter, and Tumblr users were organized into separate text corpora, each of which were normalized, stemmed and cleaned of stop words and sparse terms.[4] *Table 1* lists all words within these corpora that appear at least 50, 40, 30, 20 and 10 times. These frequencies were then standardized to represent the proportion of the total corpus they represent.

The contents of *Table 1* are organized visually within *Figure 1*, which clearly shows us that cognitive cohesion is highest among word-of-mouth communicators and Facebook users. This indicates that word-of-mouth communication and Facebook usage perform much better than Twitter or Tumblr usage at ensuring members have a common understanding of the movement and its objectives. Interestingly, communication via Facebook is not only comparable to word-of-mouth communication in regards to its ability to promote cognitive cohesion, it appears to be slightly *more* effective than word-of-mouth communication. These

[4]Text analyses were carried out using the R packages *RTextTools* and *tm*

differences may be attributable to the structure of the social media sites – specifically in regards to the ability of each site to document and display conversation among supporters. On Twitter, conversations regarding broad topics are aggregated and viewable by searching *hashtag* keywords (such as #Occupy), but viewing exchanges between individual members requires tracking down and viewing the profiles of the users engaged in the conversation. Communication on Tumblr is often conducted via private messages or by sharing other users' posts with comments. On Facebook, however, it is easy for users to view user-to-user exchanges sequentially and track the development of group ideology through consensus building. This possible link between site structure and conversational cohesion will be further discussed in later sections.

While viewing word frequencies provides insight into the cohesion within the groups associated with each mode of communication, it is helpful to view what members of these communication-based communities are saying. *Table 2* lists all the words associated with each mode of communication's corpus that appear at least 50 times (note that these words were stemmed and normalized prior to analysis). This table shows a significant amount of overlap between corpora representing each mode of communication. Similar trends can be seen within clusters of words that appear at least 40, 30, 20 and 10 times as well (although this overlap diminishes as the size of the clusters grows). This consistency implies that the Occupy movement as a whole is effectively transmitting among its members a sense of cognitive cohesion - or a common understanding of the movement's meaning and why they are involved. This may be due in part to successful marketing on the part of Occupy as a whole or to the fact that communities of frequent use for each mode of communication are not mutually exclusive (a user may engage in both word-of-mouth communication *and* Facebook communication frequently, for example). Nonetheless, results from the overall word frequency table do indicate differences in the ability of each site to create within-community consistency. Taken together, these results suggest that while the Occupy movement as a whole may be effectively spreading a common message among members, each mode of com-

munication used varies in its ability to promote this message and help develop a sense of collective identification among participants.

Because this study highlights the importance of collective identification in examining the efficacy of online space for social movement mobilization, we can expect the relative frequency of words that imply togetherness or group cohesion to be indicative of how well each mode of communication performs at promoting these values. To explore this, *Table 3* displays the number of times both "community" and "solidarity" appear within the corpora. The results reveal that there are surprisingly few strong differences between the proportion of each corpus represented by these words. Whether a supporter gathers news through word of mouth communication or through social media platforms frequently does not seem to make a difference in regards to how many times they report community or solidarity as providing important motivations for their participation in the movement. This is not surprising given the between-community vocabulary consistency seen within the data. The degree to which these word frequencies actually reflect participants feelings of solidarity and connectivity within the group, however, cannot be determined by word frequencies alone. The following section will address in greater detail how well participants within each community may be internalizing versus reciting these proposed values given the cognitive cohesion results in conjunction with respondents' relative engagement in high risk protest activity.

The next analysis examines how high risk protest outcomes vary according to the mode of communication used by the Occupy supporter. As discussed previously, it is expected that if online spaces are less adept at facilitating the development of collective identification, they are less likely to motivate engagement in high risk protest as well. The first model, displayed in *Table 4* measures whether or not the supporter has *ever* visited an Occupy camp in any capacity. It does not differentiate between those who have spent an extended period of time at the camp and those whose curiosity has landed them briefly at a camp. This logit model controls for the supporter's age, income, and whether or not

he or she has been involved with any social movements prior to Occupy. Given the effects associated with the control variables, it is possible that this question captures casual camp visitors who may be wealthier, older individuals who do not match the profile of the average Occupy supporter. Mode of communication usage ranges from "never use" to have used "within the past twenty-four hours," with the reference category set to "never use" for each.

The results in *Table 4* results provide some support for the hypotheses made regarding social media use and engagement in high risk participation. Gathering news about the Occupy movement through word-of-mouth communication displays a continuous, positive, and significant association with the individual's likelihood of having ever visited a camp. Gathering news through Facebook - a highly social platform intended to connect supporters with one another - has a significantly less strong association with camp visitation. While using Facebook recently (within the past 24 hours) is significantly associated with the individuals' probability of camp visitation (increases the odds of camp attendance by 1.42 over not using Facebook at all), the effect of using Facebook less frequently than within the past 24 hours is negligible. The association between Tumblr usage and camp attendance is similar to that of Facebook, except its influence seems to peak at a lower frequency of use (about a month ago rather than 24 hours ago). Interestingly, Twitter usage does seem to have a relatively strong association with camp attendance, which could be due to features of the website such as its brief, realtime updates and mobile-ready interface. Each level of Twitter usage displays a significant improvement over not using Twitter at all in terms of motivating individuals to visit camps, although these associations are not as strong as those generated by word of mouth communication. *Figure 2* displays a plot of the simulated probabilities of attending the camp (for each mode of communication usage measured continuously and all other covariates set at their means) in order to visually display the strong, transformative effect of word of mouth communication in comparison within social media use.

Table 5 displays the results for an ordered probit model that measures the association between mode of communication and the number of times the respondent has visited camps. Camp visitation responses range from "I've been once" to "I've been a few times" to "I've been many times" to "I live there." Again, this model controls for factors that may also influence participation – including age, income, and whether or not the respondent has been involved with other movements besides Occupy in the past.

In regards to mode of communication, this model includes word-of-mouth communication as the representation of face-to-face exchange. The ORGS contains a question that asks respondents to report the last time they gathered news about the movement at Occupy camps or discussion groups. This question also captures face-to-face communication, albeit in a more formal setting than via *word-of-mouth*. Including this variable alongside *word-of-mouth* resulted in problems with multicollinearity within the model. Responses to both *word-of-mouth* and *Occupy camps/discussion groups* - which can be considered a context-specific subset of *word-of-mouth* - are strongly associated. The inclusion of *Occupy camps/discussion groups* completely removed the effect of *word-of-mouth*, which was otherwise strongly associated with measures of camp attendance. All communication variables were standardized and the models re-run, but this did not significantly diminish evidence of multicollinearity within the model. Given this, the decision was made to drop the *Occupy camps/Discussion groups* variable in favor of its more inclusive counterpart, *word-of-mouth*.

Again, the results in *Table 5* results provide partial support for the hypotheses proposed. We see that gathering news by word of mouth frequently (within the past week or past 24 hours) displays a significant, positive association the number of times an individual is likely to visit the camps. Similar to the previous model, using Facebook to gather news about the movement has almost no association with the probability of spending more time at the camps through frequent visitation. In fact, gathering news frequently from Facebook seems to have a slight *negative* association with the probability of spending a greater amount of

time at the camps. Interestingly, increasing Tumblr usage seems to have a moderate positive association with the probability of spending more time at the camps, but as was the case with overall camp visitation the effect is only present for moderate Tumblr users. Finally, it is once again clear that increased Twitter usage is associated with an increase in the amount of time the individual spends at the camps. Again, this may be attributable to Twitter's mobile-ready interface, which may help individuals gather and share information while at or nearby the camps themselves. This possibility will be discussed in greater detail in the following section.

DISCUSSION

This study suggests that the use of social media sites has not diminished the importance of word-of-mouth communication in regards to building a sense of collective identification. Those who rely more heavily on gathering news through word-of-mouth interaction are in general more likely than most social media users to develop a cognitive understanding of the movement and its objectives that is in line with their fellow participants. In addition to this, word-of-mouth communication has a stronger and consistent positive impact on motivating high risk protest activity than social media usage on the whole. This is not to say that social media users are not active participants or that all social media sites included in these analyses perform poorly at either outcome, but in general the extent to which they use social media in general sites seems to have a lesser impact on their collective identification and high risk protest activities.

These trends, however, vary by site. Facebook, for example, features a user interface that emphasizes transparent interpersonal communication and is highly effective at helping members develop a shared interpretation of the movement and its objectives. This may be due to the ability of Facebook users to easily track conversations between other participants and in doing so develop a consensus-based understanding of the movement's ideals and objectives. Twitter and Tumblr do not feature this convenience. Increased Facebook usage, however, does not seem to make a difference in motivating high risk protest. This provides evidence in favor of (but does not directly support) the notion that online spaces do not foster the emotional connections necessary to motivate high risk protest activity. Twitter, on the other hand, does not appear to be as effective as Facebook or word-of-mouth communication at fostering a common understanding of the movement. This could be due to the difficulty in tracking or maintaining user-to-user conversations within Twitter. Tumblr, which lacks

identity transparency, does not easily permit users to track exchanges between fellow occupy participants, and is perhaps best known for its highly personalized "I am the 99%" campaign performs poorly in regards to its ability to either foster a common interpretation of the movement or make a difference in motivating high risk protest.

Twitter, interestingly, stands out among other social media sites as a tool for motivating high risk protest. This distinction may be due to Twitter's unique platform design. For one, Twitter networks are undirected, meaning that "following" another user's feed does not require them to reciprocate the connection, and non-reciprocated connections do not prevent inter-user communication.[5] This means that not only can private individuals interact with one another, they can interact directly with organizations and entities spreading news about the movement. In addition to this, Twitter's characteristic "hashtags" allow users to contribute to broader conversations and easily seek out individuals and organizations that share their interests. Finally - and perhaps most importantly - Twitter was originally designed to be used on mobile devices, which makes it an ideal platform for Occupy supporters to quickly gather information about protest events as they happen in real time. This mobile-ready structure ensures that the content of tweets themselves are brief and can quickly expose individuals to a diverse array of viewpoints or link them to more lengthy sources of information with ease (Gleason, 2013). In this way, it serves as a efficient bridge between offline and online protest. This can be seen in Twitter's ability to parallel word-of-mouth communication somewhat in regards to its association with frequent camp visits. These unique characteristics combined have caused some to question whether Twitter is primarily a social networking site or if it should mainly be considered a news source with unique, interactive capabilities (Kwak et al, 2010).

It is interesting to note that both outcomes highlighted by this study - collective identification in the form of a shared understanding of the movement and engagement in high risk

[5]This applies to public or"unprotected" accounts only

protest - seem as though they should be related to one another given that a stronger collective understanding of the movement may be expected to help motivate high risk activism by contributing to members' feelings of commitment, yet they exhibit disparate results for each social media site analyzed. Facebook users, for example, exhibit high levels of cognitive cohesion yet using Facebook more frequently does not seem to significantly impact the probability of visiting or staying at a camp. Viewing the proportion of each mode of communication's corpus that is represented by the words that express the importance of togetherness - specifically, "community" and "solidarity" - may help explain this. Although an approximately equivalent proportion of each corpus is represented by these terms, each mode of communication has a noticeably different effect on protest outcomes. This suggests that there is a difference between the recitation of a common value and the internalization of this value within social media communities. In other words, the degree to which Occupy supporters *claim* to value community and solidarity is the same regardless of mode of communication used, but the effect these modes of communication have on helping members internalize these values and use them to motivate action differs. Overall, it may be that while some sites are able to spread awareness of these values, they may not play a strong role in helping participants internalize them.

The proposal that mobilization through social media spaces reflects the logic of "connective action" may apply to some degree - not in regards to the ability of social media sites to build a common cognitive interpretation of the movement per say but in terms of allowing participants to develop a sense of emotional connectedness. As mentioned previously, emotional cohesion - alongside involvement in movements in the past - has been shown repeatedly to be a critical factor in motivating high risk protest activity (McAdam, 1986; Goodwin and Pfaff, 2001). Given that models presented in this study control for past movement activity, the lack of high risk activity associated with frequent Facebook and Tumblr use may be attributable to the sites' inability to replicate the tie formation capacity of face-to-face interaction. Reasons for a lack of emotional cohesion within social media spaces may include

the inability of these sites to foster continuous, transparent interaction and host rituals that promote a sense of "emotional effervescence" and lead to the creation of a cohesive community (Collins, 1990; Kollock, 1999). In addition this, a lack of emotional cohesion online could be related to the size and democratic structure of discourse within social media spaces, which may require the creation of within-group divisions to moderate (Mele, 2002). While these data cannot confirm these effects, they do invite continued analysis of the topic.

Overall, these findings suggest that while social movements may not wish to rely on social media spaces exclusively as tools for mobilization, these spaces should not be disregarded as ineffective. Although the results displayed in the previous section suggest that increased social media usage does not consistently lead to an increase in high risk protest engagement, this does *not* mean that social media users are not actively involved members of social movements or that all social media sites do a poor job at motivating participation. In addition to this, results from Facebook users suggest that some social media spaces may in fact be good at spreading a common message within a movement. Overall, these results combined do not invalidate the proposed advantages of using online spaces to promote movement involvement. Regardless of their limitations, social media spaces may still provide participants a convenient means of gathering information about a movement, may lower the perceived cost of initial involvement, and may help coordinate acts of low-risk protest either online or offline. Further analysis is needed to explore these trends.

These findings also invite researchers to consider individual social media spaces as unique social environments. As mentioned previously, existing literature linking the use of online spaces to social movement trajectory tends to address online spaces as a unified whole. Neglecting to draw a distinction between the specific online platforms used - even among social media sites, a specific brand of online space - inhibits the researcher from drawing certain conclusions about how online communication impacts the trajectory of social movements. Researchers must instead take into consideration both the mechanics of the site

analyzed as well as the user's understanding of the site's social structure when considering social movement outcomes. Overall, further analyses of how online spaces impact social movement activity would benefit from a greater accumulation of knowledge regarding the affordances and "culture" of specific sites (Hwang, 2010).

CONCLUSION

The relationship between communication mode usage, collective identification, and high risk protest is complex and difficult to quantitatively measure. However, this study finds evidence suggesting that word-of-mouth communication positively impacts these outcomes more strongly than online spaces as a whole. Word-of-mouth communication seems to be relatively effective at spreading a common understanding of the movement. Likewise, the extent to which a movement supporter communicates via word-of-mouth about the movement has a significant, positive impact on their probability of camp involvement, whereas the extent to which the supporter communicates via social media spaces seems to make little difference overall in regards to their camp visitation habits. This does not mean, however, that social media sites are ineffective tools for mobilization, that frequent social media users are not active movement participants or that all sites are consistently ineffective at promoting either outcome. Researchers have highlighted a number of potential advantages associated with the use of online spaces for social movement activity. Some have suggested that online spaces help lower the cost of coordination and commitment for participants by providing them a quick, centralized, and interactive source of information about the movement (Diani, 2000; Mele, 2002: Gil de Ziga, Jung and Valenzuela, 2012). In addition to this, online spaces are remarkably democratic and open to user contributions. While this may pose specific challenges for movements given the volume of communication this feature invites, online spaces may nonetheless provide a unique and open gathering place for like-minded movement supporters. Outcomes highlighted within this study do not serve to invalidate the possible advantages of using social media at all.

The ability to effectively spread within-group messages and motivate high risk protest, however, is not consistent across all social media sites included in this analysis. Each site exhibits

a unique performance in regards to both of these outcomes. These results suggest unique site-by-site advantages and may be attributable to differences in the structure and usage of each social media site chosen. Frequent Facebook users, for example, appear to have a more cohesive understanding of the movement than face-to-face communicators, but the fact that Facebook users also lag behind face-to-face communicators in regards to their movement participation indicates that messages shared via Facebook may not be internalized as well as messages communicated via offline interaction. In other words, frequent Facebook users may successfully negotiate themes via written communication, but sharing these themes does not have the effect of transforming them into risk-taking activists. Twitter stands out from other social media sites in that it *does* seem to nearly parallel the capacity of word-of-mouth communication in motivating high risk protest. While it is possible to speculate why these differences exist as a function of differences in site structure, further research needs to be done regarding the "web culture" and usage of each site in order to understand these trends more thoroughly (Hwang, 2010).

It is important to note that while this study *suggests* the inability of social media sites to consistently promote a sense of collective identification in the form of emotional engagement on par with that of face-to-face communication, further analyses will be required to explore this relationship more directly. The questions included in this survey are intended to provide the researcher with a thorough understanding of the demographics, involvement and technology usage of Occupy participants, but examining collective identification using these questions requires some extended inference. In addition to this, it is impossible to make claims about causality regarding the mode of communication used to gather news about the movement and engagement in high risk protest given the causal ambiguity of the questions included in the ORGS survey. Overall, further research is needed to better understand the mechanisms underlying the association between mode of communication, cognitive cohesion, and high risk protest activity.

TABLES AND FIGURES

Table 1: Word Frequency and Conversational Cohesion

Number of words that appear at least X times:					
		Word-of-mouth	Facebook	Twitter	Tumblr
At least 10 times	Count	169	231	84	23
	Percent of corpus	43.90	65.07	19.76	5.03
At least 20 times	Count	82	114	43	8
	Percent of corpus	21.30	32.11	10.12	1.75
At least 30 times	Count	62	86	27	3
	Percent of corpus	16.10	24.23	6.35	0.66
At least 40 times	Count	45	69	17	2
	Percent of corpus	11.69	12.44	4.00	0.44
At least 50 times	Count	38	51	15	1
	Percent of corpus	9.87	14.37	3.52	0.21

Figure 1: Word Frequency and Conversational Cohesion

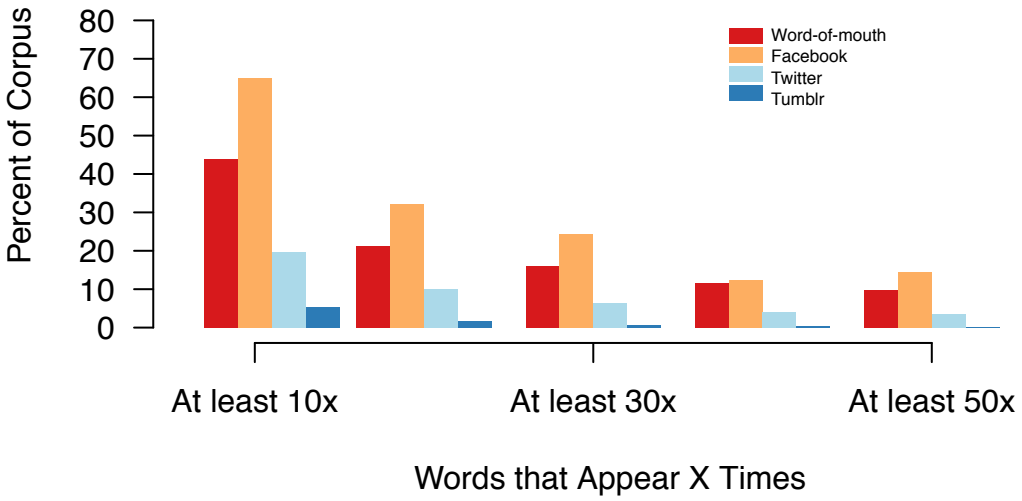

Table 2: Comparing Content of Corpora

Mode of communication	Words that appear at least 50 times
Word-of-mouth	“bank” “capit” “chang” “citizen” “class” “corpor” “corrupt” “democraci” “dispar” “econom” “economi” “educ” “environ” “equal” “financi” “”freedom” “futur” “govern” “greed” “human” “incom” “inequ” “injustic” “job” “justic” “lack” “money” “peopl” “personhood” “polit” “poverti” “power” “right” “social” “system” “unit” ”war” ”wealth”
Facebook	“bank” “capit” “chang” “citizen” “civil” “class” “commun” “corpor” “corrupt” “democraci” “dispar” “econom” “economi” “educ” “end” “environ” “environment” “equal” “financi” “freedom” “futur” “govern” “greed” “health” “human” “incom” “inequ” “influenc” “injustic” ”job” “justic” “lack” “money” “need” “peopl” “personhood” “polic” “polit” “poverti” “power” “reform” “right” “social” “street” “system” “tax” “unemploy” “unit” “wall” “war” “wealth”
Twitter	“corpor” “corrupt” “democraci” “econom” “economi” “govern” “greed” “incom” “inequ” “injustic” “justic” “money” “polit” “right” “social”
Tumblr	“inequ”

Table 3: Frequency of "Togetherness" Words

Mode of communication	Words in Corpus	"Community" Count	Pct. of Corpus	"Solidarity" Count	Pct. of Corpus
Word-of-mouth	7477	39	0.52	27	0.36
Facebook	11680	51	0.44	49	0.42
Twitter	4036	18	0.45	14	0.35
Tumblr	1219	6	0.49	4	0.33

Figure 2: Predicted Probability of Camp Visitation

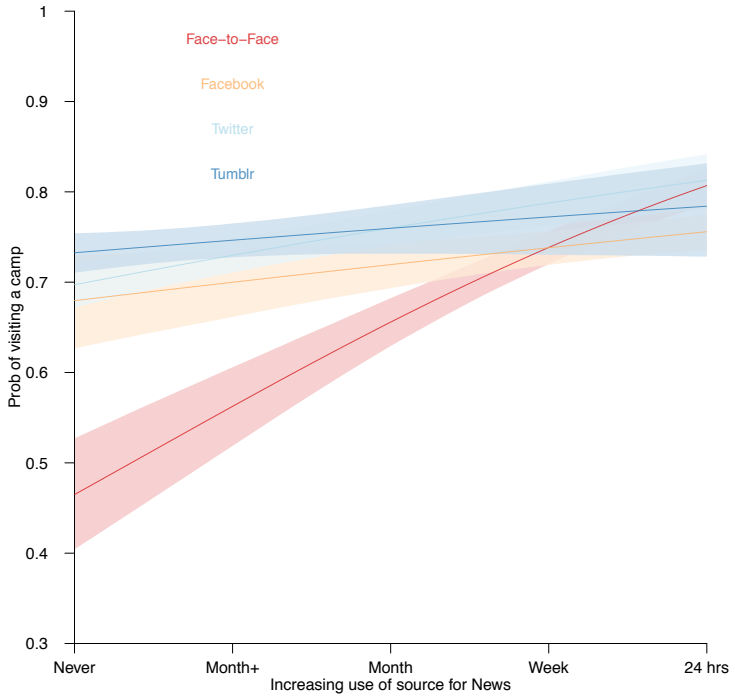

Table 4: High Risk Protest: Overall Camp Visitation

	Dependent variable:
	Have you ever visited an Occupy camp?
Word-of-mouth - over a month ago	1.259 (0.283)***
Word-of-mouth - past month	1.245 (0.227)***
Word-of-mouth - past week	1.411 (0.216)***
Word-of-mouth - past 24 hours	1.969 (0.215)***
Twitter - over a month ago	0.620 (0.237)***
Twitter - past month	0.442 (0.169)***
Twitter - past week	0.534 (0.178)***
Twitter - past 24 hours	0.604 (0.138)***
Facebook - over a month ago	0.070 (0.330)
Facebook - past month	−0.051 (0.219)
Facebook - past week	0.164 (0.187)
Facebook - past 24 hours	0.352 (0.148)**
Tumblr - over a month ago	0.337 (0.232)
Tumblr - past month	0.462 (0.182)**
Tumblr - past week	0.227 (0.196)
Tumblr - past 24 hours	0.047 (0.235)
Age	−0.019 (0.003)***
Involved in movement before Occupy?	−0.339 (0.103)***
Income	0.040 (0.103)***
Constant	−0.461 (0.317)
Observations	2,639
Log likelihood	−1,414.329
Akaike Inf. Crit.	2,868.658
Note:	*p<0.1; **p<0.05; ***p<0.01

Table 5: High Risk Protest: Frequency of Camp Visitation

	Dependent variable:
	How many times have you visited an Occupy camp?
Word-of-mouth - over a month ago	0.221 (0.224)
Word-of-mouth - past month	0.157 (0.195)
Word-of-mouth - past week	0.542 (0.189)***
Word-of-mouth - past 24 hours	1.006 (0.187)***
Twitter - over a month ago	0.137 (0.116)
Twitter - past month	0.253 (0.088)***
Twitter- past week	0.285 (0.090)***
Twitter - past 24 hours	0.296 (0.070)***
Facebook - over a month ago	0.031 (0.211)
Facebook - past month	0.017 (0.211)
Facebook - past week	−0.016 (0.211)
Facebook - past 24 hours	0.122 (0.097)
Tumblr - over a month ago	0.185 (0.108)*
Tumblr - past month	0.138 (0.084)*
Tumblr - past week	0.020 (0.094)
Tumblr - past 24 hours	0.164 (0.112)
Age	−0.005 (0.002)**
Involved in movement before Occupy?	0.085 (0.058)
Income	−0.041 (0.008)***
Observations	1,903
Note:	*p<0.1; **p<0.05; ***p<0.01

REFERENCES

Aichholzer, Georg & Allhutter, Doris, 2011. "Online forms of political participation and their impact on democracy," ITA manuscripts 1102, Institute of Technology Assessment (ITA).

Bennett, Lance W., and Alexandra Segerberg. 2012. "The Logic of Connective Action. Information, Communication & Society 15(5):739-68.

Bennett, Lance W., and Alexandra Segerberg. 2013. The Logic of Connective Action. New York: Cambridge University Press.

Bennett, W. Lance. 2003. "New Media Power : The Internet and Global Activism. Contesting Media Power: Alternative Media in a Networked World. Eds. Nick Couldry and James Curran. London: Rowen and Littlefield: 17–38.

Bimber, Bruce, Andrew J. Flanagin, and Cynthia Stohl. 2005. "Reconceptualizing Collective Action in the Contemporary Media Environment. Communication Theory 15(4):365-88.

Boyd, Danah M., and Nicole B. Ellison. 2007. "Social Network Sites: Definition, History, and Scholarship. Journal of Computer-Mediated Communication 13(1):210-30.

British Broadcasting Corporation. 2011. "Two deaths near Occupy camps in Oakland and Burlington." BBC News: US & Canada. Retrieved 1 April 2012 (`http://www.bbc.co.uk/news/world-us-canada-15700842`).

Burke, Peter, and Jan Stets. 1999. "Trust and Commitment through Self-Verification." Social Psychology Quarterly 62 (4):347–366.

Caren, Neal, and Sarah Gaby. 2011. "Occupy Online: Facebook and the spread of the Occupy Wall Street Movement. Social Science Research Network. Retrieved October 30, 2013 (https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID1948565_code1728460.pdf?abstractid=1943168\&mirid=3).

Carty, Victoria and Jake Onyett. 2006. "Protest, Cyberactivism and New Social Movements: The Reemergence of the Peace Movement Post 9/11. Social Movement Studies 5(3): 239–249.

Castells, Manuel. 2007. "Communication , Power and Counter-power in the Network Society." Political Communication, 3(24): 238-266.

Castells, 2009. "Politics and Internet in the Obama Age." ICT4D Blog . (http://ictlogy.net/20090526-manuel-castells-politics-and-internet-in-obama-era/).

Castells, Manuel. 2011. Communication Power. New York: Oxford University Press.

Collins, R. 1993. "Emotional Energy as the Common Denominator of Rational Action. Rationality and Society 5(2):203-30.

Couper, Mick P., Michael W. Traugott, and Mark J. Lamias. 2001. "Web Survey Design and Administration." Public Opinion Quarterly 65:230-53.

Diani, Mario. 2000. "Social Movement Networks Virtual and Real." Information, Communication & Society 3(3):386-401.

Donath, J., & boyd, D. 2004. "Public Displays of Connection." bt Technology Journal 22(4):71–82.

Dunn, Alexandra. 2012. "Public as Politician? The improvised hierarchies of participatory influence of the April 6th Youth Movement Facebook Group." Working Paper No. 4, New Media, Alternative Politics Working Papers, Cambridge, UK. Retrieved July 21, 2013 (http://www.polis.cam.ac.uk/cghr/docs/NMAP_Dunn_paper_4.pdf).

Gleason, B. 2013. "#Occupy Wall Street: Exploring Informal Learning About a Social Movement on Twitter." American Behavioral Scientist 57(7): 966-82.

Gil de Ziga, Homero, Nakwon Jung, and Sebastin Valenzuela. 2012. "Social Media Use for News and Individuals Social Capital, Civic Engagement and Political Participation." Journal of Computer-Mediated Communication 17(3):319-36.

Goodwin, Jeff and Steven Pfaff. 2001. "Emotion Work in High-Risk Social Movements: Managing Fear in the U.S. and East German Civil Rights Movements." *Passionate Politics*. Eds. Jeff Goodwin, James M. Jasper, and Francesca Polletta. Chicago: University of Chicago Press: 282–302.

Nepstad, Sharon Erickson and Christian Smith. 1999. "Rethinking Recruitment to High-Risk/Cost Activism: The Case of Nicaragua Exchange." Mobilization 4(1):25–40.

Hara, Noriko, and BY Huang. 2011. "Online social movements. Annual Review of Information Science and Technology 45(1): 489-522.

Hechter, Michael. 1987. Principles of Group Solidarity. Berkeley: University of California

Press.

Howell, David. 2012. “The Treatment of Missing Data”. Statistical Homepage: David C. Howell. Retrieved June 12, 2012 (http://www.uvm.edu/~dhowell/StatPages/More_Stuff/Missing_Data/Missing.html).

International Telecommunications Union. 2013. ”The World in 2013: ICT Facts and Figures.” Retrieved November 11, 2013 (http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2013.pdf).

Joyce, Mary. 2013. “Digital Activism 101: The 5 Activist Functions of Technology.” The Meta Activism Blog: Mary Joyce’s Speculations on Digital Activism and Culture. Retrieved March 15, 2013 (http://www.meta-activism.org/2012/02/digital-activism-101-the-5-activist-f

Joyce, Mary. 2013. “Time to Adapt: Analog Theory Meets Digital Activism” The Meta Activism Blog: Mary Joyce’s Speculations on Digital Activism and Culture. Retrieved March 15, 2013 (http://www.meta-activism.org/2013/03/time-to-adapt-analog-theory-meets-digital-a

Jasper, James M. 2011. “Emotions and Social Movements: Twenty Years of Theory and Research. Annual Review of Sociology 37(1):285-303.

Klandermans, Bert, and Marga de Weerd. 1988. “Group Identification and Political Protest. Self, Identity and Social Movements. Ed Sheldon Stryker. Minnesota: University of Minnesota Press: 68–90

Kollock, Peter. 1999. “Communities in Cyberspace.” New York: Routledge.

Kwak, Haewoon, Changhyun Lee, Hosung Park, and Sue Moon. 2010. “What is Twitter,

a Social Network or a News Media?" WWW '10 Proceedings of the 19th international conference on World wide web. New York: 591–600 .

Ladhani, Noorin. 2011. "Occupy Social Media." Social Policy 41(4): 83.

Lasar, Adam. 2009. "Ralph Nadar: The Internet Not So Hot at 'Motivating Action'." Ars Technica. Retrieved June 10, 2012 (http://arstechnica.com/tech-policy/2009/05/ralph-nader-internet-not-so-hot-at-motivating-action/).

Latour, Bruno. 2005. Reassembling the Social: An Introduction to Actor-Network theory. Oxford University Press.

Lomicky, Carol S., and Nanette M. Hogg. 2010. "Computer Mediated Communication and Protest. Information, Communication & Society 13(5):37-41.

McAdam, Doug. 1986. "Recruitment to high-risk activism: The case of Freedom Summer. American Journal of Sociology 92(1):64-90.

McCaughey, Martha, and Ayers, Michael. D. 2003. Cyberactivism: Online Activism in Theory and Practice. New York: Routledge.

Melucci, Alberto. 1988. "Getting Involved: Identity and Mobilization in Social Movements." International Social Movement Research, 1: 329–348.

Murthy, D. 2011. "Twitter: Microphone for the Masses?" Media, Culture & Society 33(5):779-89.

New York General Assembly. 2011. "Principles of Solidarity." Retrieved May 20 2011.

(http://www.nycga.net/resources/principles-of-solidarity/).

Nip, Joyce Y. M. 2004. "The Queer Sisters and its Electronic Bulletin Board." Information, Communication & Society 7(1):23-49.

Occupy Together. 2012. "Learn About #Occupy: Background & Timeline." Retrieved May 15, 2012 (`http://www.occupytogether.org/aboutoccupy/`)

Opp, Karl-Dieter. 2009. "Soft Incentives and Collective Action: Participation in the Anti-Nuclear Movement." British Journal of Political Science 16(01):87–112.

Opp, Karl-Dieter. 2012. "Collective Identity, Rationality and Collective Political Action." Rationality and Society 24(1):73-105.

Peytchev, Andy, Mick P. Couper, Sean Esteban McCabe, and Scott D. Crawford. 2006. "Web Survey Design: Paging Versus Scrolling." Public Opinion Quarterly 70(4):596-607.

Pew Research Center. 2013. "Digital Differences. Pew Internet and American Life Project. Retrieved June 15, 2013 (`http://pewinternet.org/~/media/Files/Reports/2012/PIP_Digital_differences_041312.pdf`)

Polletta, Francesca, and James M. Jasper. 2001. "Collective Identity and Social Movements." Annual review of Sociology 27(283):283-305.

Postmes, Tom and Suzanne Brunsting. 2002. "Collective Action in the Age of the Internet: Mass Communication and Online Mobilization." Social Science Computer Review, 20(3): 290–301.

Reuters. “Occupy Salt Lake Camp Ordered Shut Down After Man Found Dead.” Reuters U.S. Edition. Retrieved April 5 2012 (http://www.reuters.com/article/2011/11/11/us-protests-saltlake-idUSTRE7AA5MQ20111111).

Rotman, Dana, Sarah Vieweg, Sarita Yardi, and E. Chi. 2011. “From Slacktivism to Activism: Participatory Culture in the Age of Social Media. CHI11 Extended 81922. Retrieved September 3, 2013 (urlhttp://dl.acm.org/citation.cfm?id=1979543).

Selm, Martine, and Nicholas W. Jankowski. 2006. “Conducting Online Surveys. Quality & Quantity 40(3): 435-56.

Tumasjan, a., T. O. Sprenger, P. G. Sandner, and I. M. Welpe. 2010. “Election Forecasts With Twitter: How 140 Characters Reflect the Political Landscape. Social Science Computer Review 29(4): 402-18.

Van Aelst, Peter, and Stephan Walgrave. 2002. “New Media, New Movements? The Role of the Internet in Shaping the ’Anti-Globalization Movement’.” Information, Communication & Society.

Wall, Melissa A. 2007. “Social movements and email: expressions of online identity in the globalization protests.” New Media & Society 9(2): 258-77. .

Williams, C., and Girish Gulati. 2008. “What is a Social Network Worth? Facebook and Vote Share in the 2008 Presidential Primaries.” Annual Meeting of the American Political Science Association, Boston, MA, August 28-31, 2008. Retrieved October 25, 2013 (http://195.130.87.21:8080/dspace/handle/123456789/1021).