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Using Twitter to mobilize protest action: online mobilization patterns and action repertoires in the Occupy Wall Street, Indignados, and Aganaktismenoi movements

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The extensive use of social media for protest purposes was a distinctive feature of the recent protest events in Spain, Greece, and the United States. Like the Occupy Wall Street protesters in the United States, the indignant activists of Spain and Greece protested against unjust, unequal, and corrupt political and economic institutions marked by the arrogance of those in power. Social media can potentially change or contribute to the political communication, mobilization, and organization of social movements. To what extent did these three movements use social media in such ways? To answer this question a comparative content analysis of tweets sent during the heydays of each of the campaigns is conducted. The results indicate that, although Twitter was used significantly for political discussion and to communicate protest information, calls for participation were not predominant. Only a very small minority of tweets referred to protest organization and coordination issues. Furthermore, comparing the actual content of the Twitter information exchanges reveals similarities as well as differences among the three movements, which can be explained by the different national contexts.

Keywords: protest; social movements; social media; Twitter; mobilization

Introduction

Over the last few years, a continuous tide of popular uprisings and protests has shaken many parts of the world, fostering animated debates about democratization. Following the ‘Arab Spring’, citizens of many Western democracies also organized and held month-long protests against their governments. For example, the Spanish and Greek ‘indignant citizens’ (called *indignados* and *aganaktismenoi*, respectively), the Portuguese *Geração à Rasca* (desperate generation), and the *Occupy* movements in the United States and the UK inspired the organization of demonstrations in more than 80 countries around the world, which demanded radical changes in national and global politics and the functioning of judicial and financial systems (Gabbatt, Townsend, & O’Carroll, 2011).

A common underlying pattern in these mobilizations was the use of digital media to communicate, organize, and coordinate protest activities among decentralized national and international

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individuals, groups, and associations. Democracy and media scholars increasingly emphasize the role of information technologies for social change; on the one hand for facilitating democratization and promoting transition in young and developing democracies, and on the other for consolidating and stabilizing commitment, and strengthening participation in established democracies (Lynch, 2011; Shirky, 2011).

Social movement scholarship has been increasingly interested in how digital media contribute to protest events; studies have asserted that the internet can help activists diversify their engagement repertoires, move beyond previous spatial and temporal confines, and organize and coordinate participation in protest events more effectively (Bennett, 2003; Castells, 2012; Earl & Kimport, 2011; Van de Donk, Loader, Nixon, & Rucht, 2004). In recent scholarly work from diverse methodological perspectives and disciplinary standpoints (Bennett & Segerberg, 2013; Earl, McKee-Hurwitz, Mesinas, Tolan, & Arlotti, 2013; Jungherr & Jürgens, 2013; Theocharis, 2013) as well as in popular accounts (Hounsel, 2011), the microblogging platform Twitter has been singled out for its capacity to help activists to manage the complexities of mass protest organization and coordination more effectively. For example, extant literature has discussed the many benefits of microblogs for social movements and activists (Earl & Kimport, 2011; Shirky, 2008) while a number of qualitative empirical studies explored the role of Twitter among activist communities in the Occupy movements in the United States (Penney & Dadas, 2014) and the Netherlands (Mercea, 2013). However, few studies have provided empirical analyses of the fundamental changes in protest dynamics due to the use of Twitter (for notable exceptions, see Bennet & Segerberg, 2013; Earl et al. 2013; González-Bailón, Borge-Holthoefer, Rivero, & Moreno, 2011) while comparative examinations that could solidify insights gathered from single case studies are almost entirely absent.

This article addresses the effects of social networking sites (SNS) use by exploring protest-related Twitter content during political campaigns in Spain, Greece, and the United States. Previous qualitative research on the Occupy movements (to which all three movements examined in this article are linked – Gabbatt et al., 2011) has employed methods such as in-depth interviews with activists aiming to understand Twitter's use in conjunction with face-to-face practices in Occupy Wall Street (OWS) mobilizations (Penney & Dadas, 2014); analyses of Facebook posts as a catalyst for deliberation and potential mobilization in the Dutch Occupy movement (Mercea, 2013); and qualitative analysis of YouTube videos to explore the results of using a mixed repertoire of interlinked platforms (Thorson et al., 2013). This research has yielded important insights into the ways SNS are used in conjunction with activists practices on the ground, which have laid the groundwork for this study. Our study seeks to complement existing approaches by examining how Twitter is used for political mobilization and promotion of political action from a cross-national perspective and across different movements.

We focus specifically on the *direct* message of tweets for mobilization, rather than interpreting them as part of the broader, mixed information ecology linked with the communication of the movement's discourse. In this way, our approach allows us to compare how communication, organization, and personalized mobilization practices travel across national borders and distinct movements. Twitter's quick flow of very short and direct messages calling for action can be very important for political activities because tweets can be easily and massively diffused across diverse social networks (and countries), and can attract the attention of previously uninterested and organizationally unaffiliated publics. As previous studies have suggested, these passing short messages may be catalytic in someone's spontaneous decision to become involved in specific political acts online or offline, lending support to a certain movement.

Following the main focus of the internet and politics literature on SNS' capacity for political engagement, protest organization, and communication, the study's central objective is to understand whether content exchanged between Twitter users (twitterers) constitutes the basis for (a)

political mobilization, (b) political organization and logistical coordination of offline protest action, and (c) political conversation and distribution of information.

The internet and protest dynamics

Changes in political mobilization

The point of departure for much theoretical and empirical work is the different ways in which the internet affects participation in protest events; that is, how social movements and activist groups have tried to use it to strengthen and diversify their political action repertoires and organize protest (Bennett, 2003; Van Laer & Van Aelst, 2010). The internet transformed political action and long-established mechanisms of social movement organization, communication, and mobilization in various ways. The reduction of communication costs has allowed for the faster and easier distribution of movement information, and has enabled individuals to stay in touch with more people, communities, and diverse causes. It has facilitated the development of ‘weak ties’, which allow activists to extend and better manage their social networks and affiliate with distant groups (Bennett, Breunig, & Givens, 2008; Valenzuela, Arriagada, & Scherman, 2012). This resulted in more effective recruitment for collective causes and the promotion of collective identities across communities with similar grievances, which often led to successful transnational protest activity (Bennett, 2003; Della Porta & Mosca, 2005).

The internet has radically transformed two elements of traditional protest mobilization: participation costs and the need for co-presence. Besides, online dimensions of existing participation repertoires (e.g. petition signing or letter writing) have been developed, and new repertoires have been introduced.¹ Earl and Kimport (2011, p. 62) argue that the leverage of various online strategies depends on how groups design their internet-facilitated strategies. In his work on digital network repertoires, Chadwick (2007, 2012) stresses the convergence between local and global, offline and online repertoires. This hybridization, he argues, has resulted in a new type of networked repertoires that are amorphous, fragmented (or, to use a more mechanical term, *granular*), and loosely associated with formal institutional structures – which may make them stronger. Shifting the balance of participation costs to practically zero has resulted in a new model of flash mobilization in which collective action is so inexpensive that small time and content investments by participants allow many individuals to participate quickly. Consequently, a surplus of (mainly online but also potentially offline) participation and a greater number of collective mobilizations than was previously possible can occur (Bimber, Flanagin, & Stohl, 2005; Earl & Kimport, 2011; Shirky, 2008).

Changes in political organization and coordination

Changes in organizational dynamics prompted extensive debates about the internet’s impact on protest movement organization and coordination. Successful collective action has traditionally been managed through formal and hierarchical institutional leadership mechanisms (Lupia & Sin, 2003; Norris, 2002). Using Olson’s (1965) ‘free-rider problem’ and the classic social movement Resource Mobilization Theory (McCarthy & Zald, 1977) as a point of departure, past research has seen organizations as a remedy to free-riding and a way to facilitate the collection and strategic deployment of resources to attract participants for collective actions. The internet allegedly alters this dynamic by challenging the logic of collective action for two inter-related reasons. First, the structure of traditional organizations has changed from strictly hierarchical institutional forms to more flexible, horizontal, or hybrid types (Chadwick, 2012). Increasingly, organizations choose to stay in the background, providing social technology

outlays and generating action frames that can be taken up by the public, personalized and diffused across different SNS (Bennett & Segerberg, 2013, p. 47). Second, these processes are facilitated by the ease of individual or collective content production, its decentralized nature, and the ease of personalized action frame sharing through SNS (Benkler, 2006; Bennett, 2012). Microblogs such as Twitter make it easier to contribute collective (informational) goods that, despite their sporadic and ephemeral nature, may allow a much larger percentage of ideologically sympathetic individuals to participate (Earl & Kimport, 2011, p. 73).

Political conversation and distribution of information

Despite disbelief about their potential to uphold political debates,² SNS apparently play an important role in conversations during protest events and emergencies (Hughes & Palen, 2009; Lotan et al., 2011). Twitter is especially important for these conversations because it allows diverse and decentralized actors to engage in horizontal conversational practices (Meraz & Papacharissi, 2013). It also enables crowds to create their own thematic categories through hashtags (#) and to organize conversation around specific themes or keywords (e.g. #ows, #15M and #greekrevolution).

Extant literature highlights the significance of retweeting as a mechanism for helping discussions evolve through endorsement, which can raise the visibility of a certain topic (Yardi & boyd, 2010). Scholarly research has examined the importance of these structural functions for conversation during protest or other politically heated events. Papacharissi and de Fatima Oliveira (2012, p. 14), for example, found that the Twitter stream in Egypt 2011 blurred the boundaries between ordinary news; opinion expression from journalists, interested parties and individuals; and emotion, and thus shifted the balance of power in news production. Investigating a heated Twitter debate between pro-life and pro-choice advocates, Yardi and boyd (2010) found that users were exposed to a larger variety of viewpoints than before, which may have stimulated further conversation. Furthermore, they show that replies between like-minded individuals strengthened group identity, whereas replies between different-minded individuals reinforced in-group and out-group affiliation. Penney and Dadas (2014) show in their qualitative study of Occupy Wall Street protesters that content circulation via Twitter was highly significant in enabling the widespread creation of counterpublics that could criticize power structures outside the mainstream media. Overall, research shows that Twitter has been a significant political communication tool with diverse functions for communication, conversation, and information distribution during very diverse mobilizations (Earl et al., 2013; Huang & Sun, 2013; Lotan et al., 2011).

Data collection, coding, and method of analysis

Selection of cases

To empirically explore the impact of Twitter on social and political actions, we selected three highly visible movements that mobilized in 2011 and 2012: the *indignados* (known also as the 15M movement) in Spain, the *aganaktismenoi* in Greece, and OWS in the United States. These three movements are chosen because they were directly influenced by, and identified with, the 'true democracy' aims of the Arab Spring mobilizations, but also because they were in direct dialogue and solidarity with each other. This was especially the case with the Greek movement which responded to Spanish activists' provocative calls that 'the Greeks are sleeping'.³ Our selection is also based on the study's aim to cross national and linguistic barriers, offering a comparative understanding of how Twitter is used by three different movements inspired by each

other, yet operating in countries facing different socioeconomic challenges. Moreover, based on media reports, the three movements employed different protest tactics whose organizational premises we expect to see reflected in their use of Twitter. The *indignados* engaged in door knocking, canvassing, and organizing local initiatives, while smaller groups were known to cover everything from stopping banks repossessing homes to setting up co-operatives – even long after the demonstrations were over (Tremlett, 2012). The Greek *aganaktismenoi* invited everyone to open deliberation and argued that they advocated direct democracy endeavours in an ‘Ancient Agora’ fashion in the capital’s central square. Activists participating in the OWS mobilizations employed mainly demonstrations and occupations of central squares and buildings of symbolic importance and engaged in political lobbying (Bennett & Segerberg, 2013; Thorson et al., 2013). All these acts required substantial logistical coordination and the deployment of effective mobilization practices. Given the recent theorizing on social media’s role in affecting protest dynamics, we expect particularly strong use of Twitter in these various activities.

Data collection and sampling

To assess whether the three movements used Twitter in a similar fashion, tweets were collected using the social media crawler and text analytic tool *Discovertext* for two weeks during the heydays of protest in each country (5–19 June 2011 for Spain and Greece; 2–16 October 2011 for the US protests).⁴ The results presented here are based on content analysis of a random sample of 2000 tweets drawn from each movement using the #15M (80,074 tweets), #greekrevolution (19,784 tweets), and #occupywallstreet (342,479 tweets) – the most prominent⁵ movement hashtags.⁶ We captured the content of tweets along with the hashtags, usernames, dates, time-stamps, and other miscellaneous platform information. The tweet’s content was stored in *Discovertext*’s internal database and was exported as comma-separated values (csv) file for further analyses. To select our sample we used a simple random sampling procedure without replacement, assigning equal probabilities to all tweeted units in our complete data set to be selected.

Defining categories

After drawing the sample, two of the authors initially separately scanned the content of 60 tweets from the Greek and Spanish data sets (30 for each case) for the purpose of listing the distinct categories which could reveal how Twitter was used for political action. After discussing the results, the procedure was repeated three times, examining in total 90 tweets each for each country data set: see also García-Albacete and Theocharis (in press). The English-speaking tweets were examined simultaneously in order to ensure validity and comparability of each category with the Spanish and Greek data sets.

Coding and intercoder reliability tests

After reaching acceptable levels of intercoder reliability in each of the categories, three research assistants (Spanish-, Greek- and English-speaking) were recruited for the coding, and the three collections of tweets were loaded into custom-made software (see supplementary material).⁷ The software was developed by one of the authors for the purposes of the study and specifically to allow our international team of coders to assign content categories to each tweet via the web. Each coder was presented with a sequence of screens, each centred on a single tweet with hyper-linked image references and hyperlinks, below which was a form interface to guarantee input consistent with the codebook.

Given that the data set contains information in three languages, the first training and reliability check was performed involving both the coders and the authors using English-language data from the OWS data set. In this way, a common point of linguistic reference could be established. The first stage involved training the coders according to the codebook prepared by the authors (see supplementary material for examples and borderline cases) and discussing the categories. The second stage involved individually coding 30 tweets and a discussion of the categories among all coders. This process was repeated, reaching an average agreement rate in the second round of 65–80% in all categories. The same procedure and reliability tests were then performed between pairs (one author and one coder) for the Spanish and Greek data sets. In this part of the training, each pair coded 60 tweets from the Spanish or Greek data set. After coding the first 30 tweets, each pair discussed the results for clarifications. They then coded another 30 tweets; the percentage of agreement rose to more than 80% in all categories. After a total of three rounds of intercoder reliability tests (which included the authors) based on the US data set, each of the assistants hand-coded 2000 tweets.

Method of analysis

The coding results were exported as csv files and were analysed using *STATA*. We prepared our data set for social network analysis and visualization following Bruns' (2012) methodology using the *Gawk* and *Gephi*. Classic social network analysis measures such as in- and out-degree centrality to define the position and influence of certain actors within the networks are applied. We analysed the information automatically retrieved from Twitter such as: whether the tweet includes a link, whether it is original or retweeted, and whether it is directed to a specific user. We identified political attributes in each tweet (the purpose of the tweet, the political issues and political actions mentioned, the positive or negative evaluation of the movement, the type of links distributed, and the type of sender). Finally, we constructed indicators for understanding the use of Twitter for political mobilization, as well as the aims, characteristics, and tactics of social movements as reflected and communicated through the media.

Results

Was Twitter used mostly for spreading calls for political action, logistical organization and coordination, political conversation, or information distribution? A preliminary analysis of the purpose of the tweets yielded 16 categories (Appendix Table A1),⁸ which we grouped into four main axes of interest: (1) political mobilization (when the tweet has an explicit call for action or distributes information about a future event), (2) coordination (when the tweet referred to organizational/logistical issues or included 'live action reporting'), (3) information (reporting news or an article about the movement, reporting news about the movement's causes, or distributing information about the crisis), and (4) conversation (political statements and other conversations). There is also a final 'other' category.

Figure 1 shows tweeting purposes by country using correspondence analysis. In this type of plot, different purposes and countries are represented as circles in a coordinate system shown by lines. Purposes that are used equally by twitterers in each country appear near the centre, whereas purposes that are relatively more prevalent in one country than another are further from the centre. Purposes plotted close together have a similar profile of usage across countries. Because countries are also plotted, purposes in the same direction from the centre as a country marker are more widely used in that country. The representation takes into account the fact that some purposes are more common than others, and presents only relative data (Greenacre, 1993).⁹

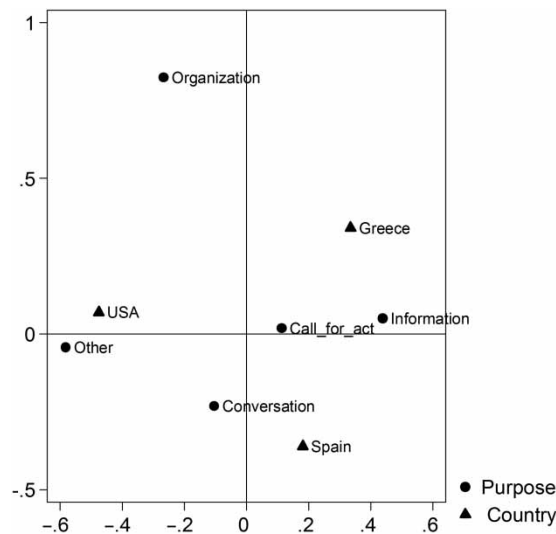


Figure 1. Correspondence analysis (‘symmetric scaling’) of tweeting purposes by country. Note: Circles represent purposes and triangles represent countries. Circles closer together indicate purposes with a more similar profile across countries. Circles in the same direction as a country, considered from the origin marked by the lines at 0, indicate purposes more likely to be used by twitterers in that country. See Greenacre (1993) for more detail.

The most common purposes include distributing information about the movement (32% of all tweets) or discussing and commenting on the movement (37%), while calls for action and organizational issues only appear marginally (7% and 9%, respectively). The location of each purpose in Figure 1 also shows each movement’s relative Twitter use. The purpose ‘call for action’ is almost at the centre of the triangle formed by the three countries, indicating that this purpose is shared equally by twitterers in each country. Conversation is more common in Spain and the United States than in Greece, while the opposite is true for information. Organizational issues are somewhat more common in the United States, followed by Greece.

Figure 2 represents this graphically through a ‘discussion network’ for each movement built using our data to represent conversations – i.e. when a Twitter user refers to another using the ‘@user’ function. The Spanish and American networks are found to be much more dense, from a participatory point of view, than the Greek; the first two networks are not only much larger in terms of the numbers of unique nodes (users) involved in the discussion,¹⁰ but also in terms of the number of different nodes addressed by users (as evidenced by the plurality of edges). This finding may be related to the much higher domestic use of Twitter in the United States and Spain. In Greece, users in 2011 hardly exceed 30,000 (Communication Effect, 2011) with those using it for activism being a very small minority. Moreover, research shows that very high levels of flaming and trolling in the Greek Twitter sphere have produced much scepticism among Greek users (ELTRUN, 2013), which may have dissuaded many from taking part in political discussions – probably leaving this type of use to a few experienced and politically motivated and skilled users (Tsaliki, 2010).

The results in Figure 1 do not support Twitter being used predominantly for political mobilization and coordination. To further test this assumption, we use a different operationalization that examines social media’s promotion of political actions. In this case, we explore the number of messages that included references to specific political actions. Given the internet’s expected contribution to the diversification of political acts, recent social media-based innovations in

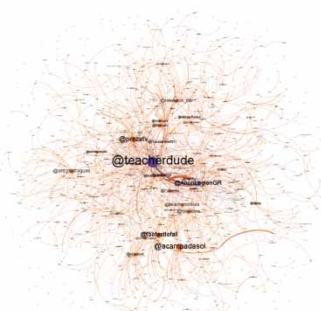
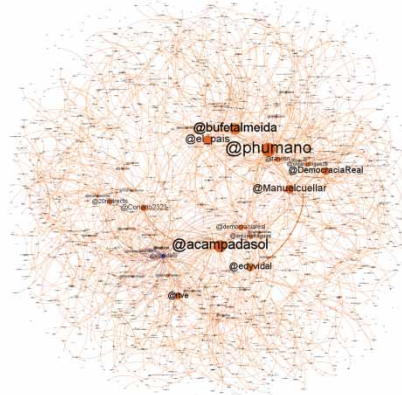
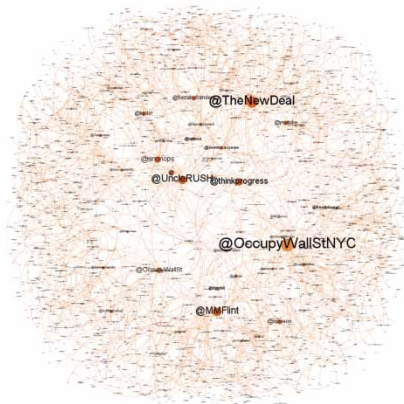
Aganaktismenoi network*Indignados network**Occupy wall street network*

Figure 2. Visualization of the three movement networks (Yifan-Hu method).

participatory politics (Loader & Mercea, 2012) and the diffusion of personalized action frames (Bennett & Segerberg, 2013), we searched tweeted content for mentions of any acts of political participation. By examining tweets in this way, we could capture new expressive modes of participation but also online modes that are equivalent to those analysed in classic political science literature, such as trying to persuade someone to participate in a certain action, signing a petition, or attending a political meeting or rally (Barnes et al., 1979). According to this approach, ‘call for participation’ represents broad participation – including online, offline, hybrid, and expressive forms of engagement – and is measured by mentions of particular protest actions in the variable action.

Figure 3 plots the most common political actions explicitly mentioned in the tweets. The larger category refers to tweets that did not mention any political activity (58% of the total sample). These were more common in Greece (65%) than in Spain or the United States (54 and 50%, respectively). The next category in frequency of mentions is street protest, which includes mentions of demonstrations, occupations, and rallies (34% of all tweets); this category was most common in the United States, then Spain, and finally Greece (Table A2 in the appendix). These findings reflect differences at the country level between the three movements. News reports

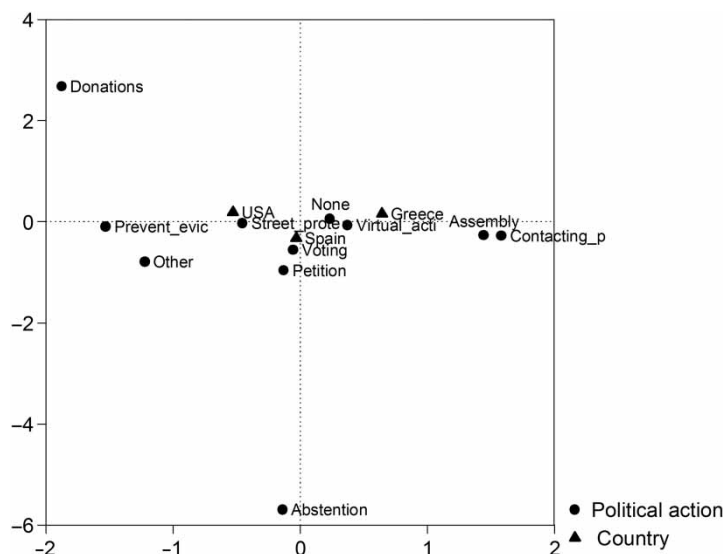


Figure 3. Correspondence analysis ('symmetric scaling') of explicit mentions of political actions by country.

in mass media displayed street action in the *indignados* and OWS protests as being much more vivid than in Greece (the encampment in Athens' Syntagma Square was by no means as extensive as in Zuccotti Park or Puerta del Sol). After the movements took off, the multiple times that protesters clashed with the police, the repeated attempts to evict demonstrators from Zuccotti Park and Puerta de Sol, and the re-encampments (Castells, 2012; Gerbaudo, 2012) made (and remained in) the headlines not only in national wide-circulation outlets like *The New York Times* and *El Pais*, but international media too. In contrast, a central complaint by Greek protesters was not the lack of coverage of their protest initiatives, but its misrepresentation by the press. These allegations led *Al Jazeera* to publish a series of articles on the portrayal of activists by the Greek media under the title 'Is the media part of the problem?' (2011). Continuous allegations led to the Greek movement's explicit hostility towards mass media and to a turn towards alternative avenues for information, which is also evident in our findings. The rest of the actions mentioned appeared in only 3% or less of the tweets. References to donations and the prevention of evictions were more common in the United States, while Greece had more references to assemblies and calls to contact politicians than the other two countries. These findings also reflect offline differences between the three movements. Although donations were entirely absent in Greece and clashes with the police scarce, *The New York Times*, among other outlets, reported extensively on the overwhelming donations received by the Occupy movement and the clashes with the police (Flegenheimer, 2011). In Spain, given that local elections were held at the same time (May 2011), we also found tweets that were encouraging people to abstain, but also to sign petitions and engage in other actions.

The results presented thus far show that calls for participation in the protest events were hardly explicitly mentioned in the tweets. Obviously, political actions are mentioned frequently, but attempts to directly mobilize people through direct calls for action were relatively scarce. Although almost half of all tweets included an explicit mention to political actions, this is a rather trivial finding, given that we collected our tweets during the heydays of political protest in each country. Nevertheless, it should be noted that our data were collected when the movements had already settled occupations of numerous squares, and had already developed regular

street activities; thus we may have missed a number of explicit calls for action in earlier exchanges. Moreover, our approach focuses on the immediate content of tweets, rather than trying to provide an in-depth interpretation based on the broader protest narrative as other studies have done (Boynnton, 2013). This may have resulted in undermining the importance of less explicit tweets.

Similarly, the results indicate that Twitter content rarely referred to logistical organization or coordination of concrete political protest activities such as protest marches (see Figure 1). However, given the heavy use these movements made of SNS, the frequency of tweets may be hiding the fact that some formal organizations (such as, e.g. New York's labour unions that later came supported protesters – Greenhouse & Buckley, 2011) may have occasionally undertaken the major organizational tasks, while the crowd contributed to the campaign in different ways (Bennett & Segerberg, 2013, p. 47). To further explore this question we look at the type of sender of each tweet. Given the importance that scholarly debates have placed on how digital media may facilitate *crowd-enabled* self-organization of protest action, slowly rendering traditional social movement organizations less relevant, we expected that individuals would play a much greater role than organizations. To this end, up to nine types of users were identified (see Appendix Table A3), which we summarized into six major categories: (1) citizens, (2) commentators (citizen bloggers and individual journalists), (3) organization of the movement (e.g. @occupyoakland), (4) other organizations, (5) news agencies and (6) others (when the account no longer exists, is protected or belongs to residual categories such as politicians).

As Table 1 shows, individual citizens appear to be by far the largest type of twitterers in all countries: in Spain and the United States more than 75% of all tweets came from ordinary citizens, while in Greece the same volume was spread between individual citizens (41%) and commentators (33%), which is consistent with the intense growth and reported vibrant activity of the Greek political blogosphere (Tsaliki, 2010). In Greece, a substantial number of tweets were also sent by news agencies. Overall our findings are in agreement that, in all three movements, citizens predominated over organizations at least as far as the online discourse was concerned.

Were there differences between different types of users in terms of the purpose of tweeting? Contrary to expectations that a large proportion of tweets aimed at organization and call for action would originate from individual citizens (given that these protest events have been identified as crowd-enabled demonstrations (Anduiza, Cristancho, & Sabucedo, 2014; Bennett & Segerberg, 2012), our findings show that in fact few tweets were intended to organize protest activities or to call for action. A possible explanation for this remarkable result is that in our sample, tweeting for these purposes is mainly done by local groups that formed the movements. Figure 4 combines the information regarding the purpose and type of sender for each movement and plots the percentage of tweets for each purpose sent by each type of sender. This analysis provides some evidence that the movements' local organizations (e.g. Occupy Oakland) sent relatively more tweets that

Table 1. Types of twitterers in each country in the sample (%).

	Spain	Greece	United States	Total
Citizens	75	41	81	67
Commentator	5	33	2	12
Movements' organization	3	4	2	3
Other organizations	3	2	4	3
News agency	1	7	0	2.9
Others	12	13	10	12
Total (N)	1903	1637	1880	5420

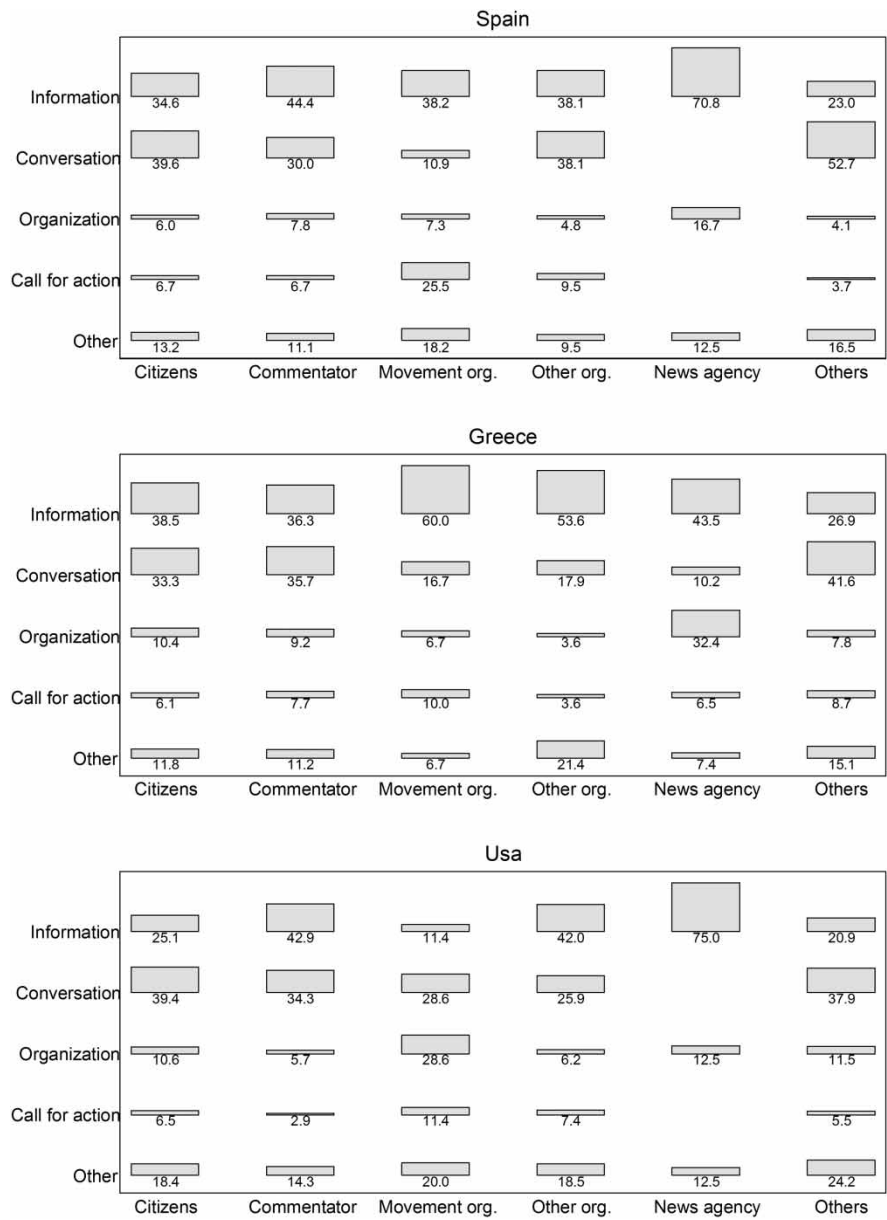


Figure 4. Type of user and purpose of the tweet in each country (percentages by sender).

included specific calls for action than other types of senders. These results square well with recent social network and qualitative analyses, showing that online activity reflected the OWS and other Occupy movements' efforts to mobilize resources at the local level (Conover, Davis, et al., 2013; Mercea, 2013). This is particularly visible in the fourth row of Figure 4 for Spain and the United States.

Based on these data it appears that, in all three movements, the main use of Twitter was neither for direct mobilization of participants, nor for coordinating activities in the street. The most widespread type of use was the distribution of information or conversational messages (but note that

purposes are slightly more common depending on the type of user, as illustrated in Figure 4). It is thus interesting to examine the type of information distributed by each movement and explore the existence and content of conversational dynamics among users.

The finding that distributing information was one of the major purposes behind the Twitter exchanges is corroborated by the large number of messages that included a link. Almost half of all tweets sent (48%) included a link to a third-party website, social media platform, or other source, and no significant differences were observed across movements. This finding confirms observations about the role of links in other crowd-enabled movements (Segeberg & Bennett, 2011). Following methodological strategies employed in previous research and theoretical contributions that suggest that links may represent a new form of mobilizing resource for movements (Bennett & Segerberg, 2013), we placed particular emphasis on exploring the content of the posted links. In this way, it is possible to figure out what the tweet referred to, and the exact information that was distributed (evaluating whether the link's content had a mobilizing potential was beyond the scope of this study). This also gave us the opportunity to search for participatory acts that we may have missed by looking at the textual part of tweets.

A total of 13 categories comprise the spectrum of websites linked to tweets (see Appendix Table A4). The five main types of links (video, picture, mainstream media, alternative media and blogs), together with two residual categories (links that are no longer available and other/minor links) are shown in Figure 5 in the space defined by the three countries. According to this figure, links leading to videos, pictures, and social media were common in all three countries. This is perhaps related to the intense reporting by amateur protesters, social media users, and professional journalists regarding outbreaks of police violence and its intensive visual reporting, especially in Spain and the United States (Castells, 2012). However, cross-national differences

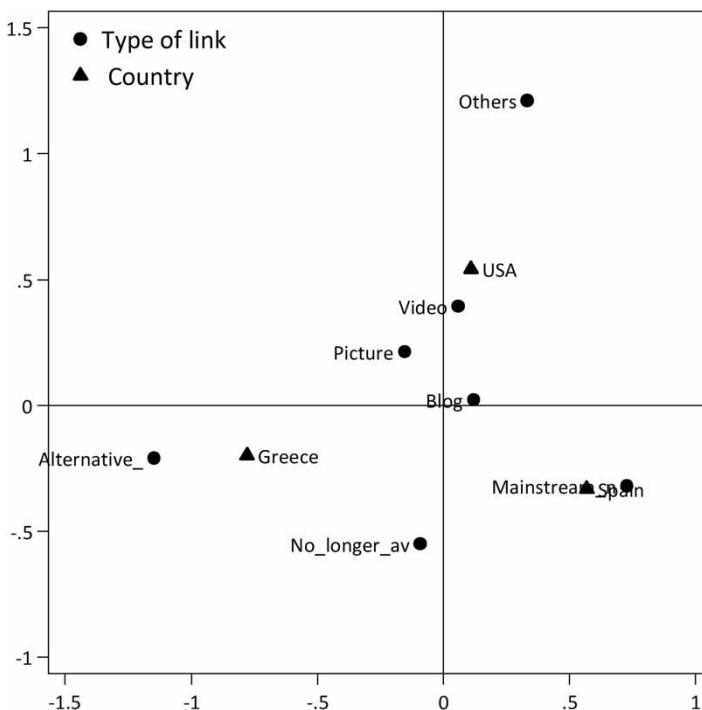


Figure 5. Correspondence analysis ('symmetric scaling') of types of link by country.

are relevant here too. While in Spain the largest percentage of links were directed to mainstream news media (e.g. major newspapers or main TV stations), the protesters' distrust in mainstream media in Greece was exemplified through the complete absence of links to mainstream news sites and a clear preference for alternative news media such as the popular *Preza TV*, *TVXS*, and *Indy-media Athens*.¹¹ These results are also evident in the visualizations shown in Figure 2, which clearly illustrate that Spain is the only country in which mainstream news media were visible as key actors in the debate unfolding on Twitter (notice, e.g., the account of the mainstream newspaper *El Pais*).¹² Similarly in the United States, the alternative news media channel *Democracy Now* received enough mentions to make it one of the most popular users in the Twitter debate.

The conversational aspect of tweeting also provided valuable information. As the three movements engaged in mobilizations for common (but also for different) reasons, political statements and topics of conversation usually referred to issues that were of highest importance for each movement. We examined political issues in the tweets distributed to compare the main concerns of each movement; up to 13 different political issues were identified (see Figure 6). All three movements discussed issues such as education, institutional reforms, lack of representation, and corruption. Furthermore, the analysis also highlights issues that were more prevalent in some movements than others, reflecting again cross-national differences and the movements' separate goals. In Greece, there was a considerable number of references to austerity measures and the lack of representation, which reflected the so-called troika visits to Athens for negotiations along with the public's reaction. Austerity measures were, of course, of no concern in the United States where economic mismanagement and inequality were most visible, echoing the roots and consequences of the financial crisis that started in 2008 – much earlier than in Greece. In Spain, mentions of police violence were more common, which is consistent with the events in Catalonia during that period. A considerable number of tweets included more than one political issue; this was particularly the case in Spain, where 10% of the tweets referred to more than one issue and included other topics such as immigrant's rights, mortgages, and house evictions.

A rigorous test of the communication dynamics and scope of the discussions on Twitter probably requires a much larger sample than the one available. Nevertheless, previous studies

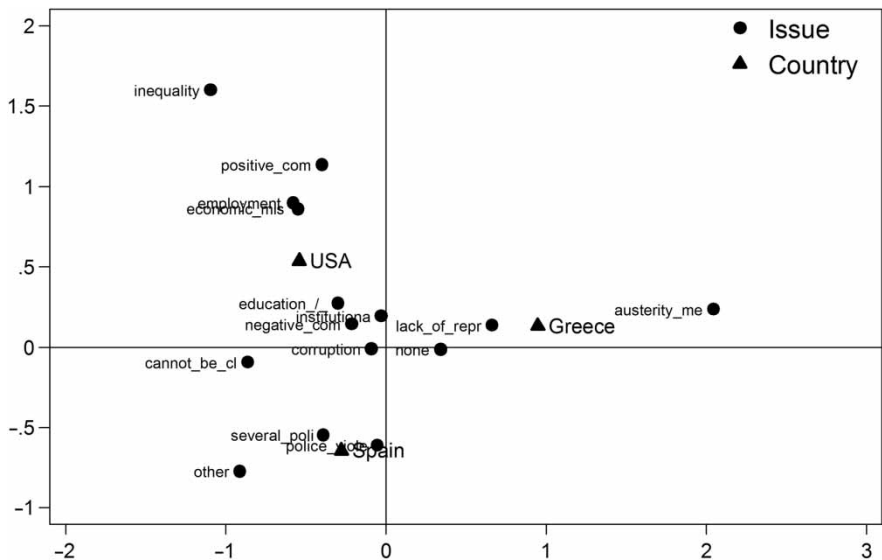


Figure 6. Correspondence analysis ('symmetric scaling') of political issues discussed by country.

Table 2. Conversational indicators across movements (%).

		Spain	Greece	United States
Conversation (purpose)		39	33	38
RT		62	48	67
@		69	56	71
Positive/negative evaluations	Positive	63	47	72
	Negative	6	3	12
	Neutral	22	40	10
	Unclear	10	9	7

Note: RT, retweet.

demonstrated the diffusion capacities of retweeting messages (boyd, Golder, & Lotan, 2010) and the exposure of social network users to perspectives different than their own (Yardi & boyd, 2010). In addition to the large number of tweets that we identified as ‘conversational’ in the purpose variable presented above (37%, see Table 1), other pieces of information can be extracted to signal the existence of online discussions. Table 2 offers, for each country, the percentage of tweets that were classified as conversational; the percentage of retweets; the percentage of tweets directed to another user; and those that included a positive, negative, neutral, or unclear evaluation of the movement.¹³ Understanding all four measures as indicators of conversational dynamics, Table 2 reveals major differences between the three movements. In Greece, all four indicators point to less discussion or conversation compared to the United States and Spain, which is also visually evident in Figure 2 and further demonstrated by the Greek network having the smallest number of edges (i.e. tweets directed to another user). A lower percentage of links in Greece was retweets, directed at a specific user, or included a clear positive or negative evaluation of the movement.

Conclusions and discussion

How was Twitter used during the heydays of political mobilizations in Spain, Greece, and the United States? We categorized the major changes to protest dynamics attributed to the internet under (1) changes in political mobilization, (2) changes in protest organization and coordination, and (3) changes in information diffusion and political discussion. Empirical analyses of movements’ use of Twitter allowed us to explore the extent to which this tool was used for political action, logistical organization and coordination, political conversation, and information distribution. Our findings show that Twitter was predominantly used to facilitate the discourse among activists, organizations, news media, and the public on the one hand, and to sustain the movement mobilization already taking place through other online platforms and offline channels, on the other (Gerbaudo, 2012; Thorson et al., 2013). Our work builds on previous studies that adopt various methodological approaches and contributes to ongoing debates by showing, from a comparative perspective, how different uses were adopted across different movements in distinct countries. The results reveal that specific uses of Twitter are largely consistent across movements (e.g. the platform is mainly used for conversation and linking information, and less so for calling for action and organization). Importantly our approach also shows that domestic factors that are unique to specific national contexts play a role in the structure and content of the exchanges.

The additional information gained through the analysis of specific issues communicated via Twitter shows that the microblogging platform reflected not only each movement’s separate concerns, but also the situation in the countries in which the mobilizations took place. Consistent

with domestic levels of Twitter penetration, the platform was used much more extensively in the United States and Spain than in Greece. In the last, Twitter use in general was very limited. When Greek twitterers used the platform, their concerns reflected issues that were unique in Greece, such as the austerity measures imposed by the 'troika'. These concerns were different in the United States, where the mainstream debate linked to the protest events was concerned with inequality. It was different in Spain too where much of the discussions revolved around police violence. Distrust and extreme hostility towards the media, which were suspected as serving solely the role of government-sponsored propaganda, was a crucial feature of the Greek protesters who called for boycotting mainstream media networks. This surfaced in the Twitter debate of the *aganaktismenoi* movement where, again contrary to the United States and Spain where actors often linked information from mass media sources, there was a complete absence of mainstream media sources and a prevalence of political blogs and alternative news sites.

Our results regarding the organization and coordination of protest activities fell short of our theoretical expectations that social media can take the role of organizational agents through the extensive communication of personalized action frames across diverse social networks. Regardless of whether we operationalized the organization/coordination component as a purpose for tweeting or as promotion of political action (in the broadest sense), our analyses show that the number of tweets intending to mobilize or organize action was very low – especially when compared to tweets sent for information and conversation. It should be kept in mind, however, that this may be a limitation of our approach. A more in-depth, and perhaps more structured, interpretation of these tweets in a continuous time-axis may allow different aspects of this communication to emerge. Our findings evidently document very limited use of Twitter for political purposes when the manifest content of these messages is analysed. Although this finding is highly relevant for debates about participation, it also calls for further investigation into Twitter's mobilization potential.

Our findings contribute to theoretical discussions about how digital media affect protest dynamics by providing some evidence in support of the 'supersizing' participation theory (Earl & Kimport, 2011). In all three movements, Twitter seems to have been used primarily by citizens for the purpose of discussing and communicating the movement's aims and agendas, and less so by organizations. Although the intensive use of microblogs by citizens (rather than organizations) hints at the growing importance of citizens in what may have been a crowd-enabled mobilization, the predominant uses do not suggest that most tweets were sent as part of logistical organization and coordination endeavours. Rather, they mainly seem to expand the discourse through the use of newspaper pieces, videos, and links to other social media and online content, and therefore extend the debate about the movement and its aims.

There are three main points to consider regarding the very modest levels of directly and explicitly action-related tweets. First, this finding may be the result of the fact that we collected our data after the thunderous beginning of the protests and thus when movements were already in the public space. Second, a random sample of 2000 tweets may simply not be large enough to identify the full extent of those calls. As previous research has warned, results vary substantially depending on when one removes and analyses a slice of the Twitter stream (boyd & Crawford, 2012; Segerberg & Bennett, 2011). Third, some of the media content that travelled via Twitter through hyperlinks might have been a mobilizing resource in itself (Bennett & Segerberg, 2013), and thus a more qualitative approach that would have taken into consideration emotional and symbolic aspects could have interpreted them as potential mobilizers. Yet, since our data collection took place during a period when the movements made the headlines almost every day, and a random sample of 2000 tweets does not exclude the possibility that substantial indications of this type of use will show up, our findings call Twitter's mobilizing potential into question. Furthermore, the comparative aspect of our study and the fact that in all three movements tweets

intended to organize and coordinate action were consistently in the minority (while those intended for information diffusion and political discussion were consistently in the majority) raise important theoretical questions about the relationship between Twitter use and protest dynamics.

The dearth of calls to even low-cost acts and personalized online action frames in our samples (e.g. tweets calling for action, links to petitions or personalized tweets aimed at politicians) allows only conservative inferences about Twitter's role in enabling political action. Although Twitter certainly supported protest communication, based on this analysis it does not seem to have altered the underlying processes that drive collective action and organization by, for example, causing a surge in online contributions that we could comfortably classify as political action. Conover, Ferrara, Menczer, and Flammini (2013) show that the Occupy movement tended to elicit Twitter participation mainly from highly interconnected users with a pre-existing interest in domestic politics, rather than bringing together different social groups behind a common cause. This further strengthens our conclusions that Twitter's organizational and coordination role in these mobilizations may not have been as extensive as frequently presumed.

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Notes

1. Van Laer and Van Aelst (2010) introduced a typology that categorizes political action repertoires into 'real' actions, which are supported and facilitated by the internet, and 'virtual' ones that are exclusively internet-based.
2. The capacity of articulating specific, nuanced demands in the negotiation process that follows success using internet platforms has been questioned (Lynch, 2011); some have even gone as far as to suggest that 'social media politics' are incompatible with representative democracy (Milner, 2013).
3. Greek banners later declared 'we are now awake' in both Greek and Spanish.
4. A regular Discovertext subscription does not provide access to the 'firehose'. This makes it impossible to determine the representativeness of our sample. Loss of tweets may have ranged from 30 to 60%. For a discussion of the representativeness of Twitter data captured without firehose access, see boyd and Crawford (2012).
5. Researchers who acquired larger collections of data from the specific movement across a lengthier time span found that #OWS was in fact the most actively used Twitter stream during the protests (Bennett & Segerberg, 2013).

6. Similar methodologies have been used by Thorson et al. (2013) and Bennett and Segerberg (2013).
7. The software was written in Python using the Django framework and backed by an SQLite database from which coding results were constructed and exported for analyses. The software has been used in other Twitter coding projects and is available on request. An open source version will be made available to the academic community after publication.
8. An online appendix that includes the descriptives for all tweet categories (Tables A1–A4), the project's codebook, and descriptions of software we used are available at <http://dx.doi.org/10.7910/DVN/26792>.
9. Here we plot 'symmetric' or French-style plots for clarity. This means that the figures are not biplots and, while distances between purposes are meaningful, only angles between country points and purposes should be interpreted.
10. Number of nodes: Occupy Wall Street, 1702; Indignados, 1498; Aganaktismenoi, 1278.
11. See also recent findings from Eurobarometer 2011 regarding Greek citizens' distrust of mainstream media.
12. In the visualizations, the size of the actor was determined by calculating in-degree centrality, or the number of incoming links (mentions) by other actors.
13. As discussed elsewhere (García-Albacete & Theocharis, *in press*), despite the difficulties of evaluating whether such a small piece of information implies support of or disagreement with the movement (as reflected by the large percentage of neutral or unclear categories), we interpret the fact that both more clearly positive and negative messages could be identified in the United States as a signal of the higher polarization of the OWS movement compared with Spain or Greece, and show that this interpretation is consistent with pooled findings for the three movements.

References

- Al Jazeera. (2011). Greece: Is the media part of the problem? *Al Jazeera*. Retrieved May 11, 2014, from <http://www.aljazeera.com/programmes/listeningpost/2011/06/20116258446620353.html>
- Anduiza, E., Cristancho, C., & Sabucedo, J. M. (2014). Mobilization through online social networks: The political protest of the indignados in Spain. *Information, Communication & Society*, 17(6), 750–764. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/1369118X.2013.808360#.UcMjDuenpEQ>
- Barnes, S. H., Kaase, M., Allerbeck, K. R., Heunks, F., Inglehart, R., Jennings, M. K., ... Rosenmayr, L. (1979). *Political action: Mass participation in five western democracies*. Beverly Hills, CA: Sage.
- Benkler, Y. (2006). *The wealth of networks: How social production transforms markets and freedom*. New Haven, CT: Yale University Press.
- Bennett, L. W. (2003). Communicating global activism. *Information, Communication & Society*, 6(2), 143–168. doi:10.1080/1369118032000093860a
- Bennett, L. W. (2012). The personalization of politics: Political identity, social media, and changing patterns of participation. *The ANNALS of the American Academy of Political and Social Science*, 644(1), 20–39. doi:10.1177/0002716212451428
- Bennett, L. W., Breunig, C., & Givens, T. (2008). Communication and political mobilization: Digital media and the organization of anti-Iraq war demonstrations in the U.S. *Political Communication*, 25(3), 269–289. doi:10.1080/10584600802197434
- Bennett, L. W., & Segerberg, A. (2012). The logic of connective action. *Information, Communication & Society*, 15(5), 739–768. doi:10.1080/1369118X.2012.670661
- Bennett, L. W., & Segerberg, A. (2013). *The logic of connective action: Digital media and the personalization of contentious politics*. Cambridge: Cambridge University Press.
- Bimber, B., Flanagin, A. J., & Stohl, C. (2005). Reconceptualizing collective action in the contemporary media environment. *Communication Theory*, 15(4), 365–388.
- boyd, d., & Crawford, K. (2012). Critical questions for big data. *Information, Communication & Society*, 15(5), 662–679. doi:10.1080/1369118X.2012.678878
- boyd, d., Golder, S., & Lotan, G. (2010). *Tweet, tweet, retweet: Conversational aspects of retweeting on Twitter*. HICSS-43, IEEE. Kauai, HI.
- Boynton, R. G. (2013, March 11–16). *A moment in the constitution of social movements*. ECPR Joint Sessions of Workshops, Mainz.
- Bruns, A. (2012). How long is a tweet? Mapping dynamic conversation networks on Twitter using Gawk and Gephi. *Information, Communication & Society*, 15(9), 1323–1351.
- Castells, M. (2012). *Networks of outrage and hope: Social movements in the Internet age*. Cambridge: Polity Press.

- Chadwick, A. (2007). Digital network repertoires and organizational hybridity. *Political Communication*, 24 (3), 283–301.
- Chadwick, A. (2012). Recent shifts in the relationship between the Internet and democratic engagement in Britain and the United States: Granularity, informational exuberance, and political learning. In E. Anduiza, J. M. Jensen, & L. Jorba (Eds.), *Digital media and political engagement worldwide: A comparative study* (pp. 39–55). Cambridge: Cambridge University Press.
- Communication Effect. (2011). *Twitter in Greece*. Retrieved from <http://communicationeffect.com/twitter-in-greece/>
- Conover, M. D., Davis, C., Ferrara, E., McKelvey, K., Menczer, F., & Flammini, A. (2013). The geospatial characteristics of a social movement communication network. *PLoS ONE*, 8(3), e55957. doi:10.1371/journal.pone.0055957.
- Conover, M. D., Ferrara, E., Menczer, F., & Flammini, A. (2013). The digital evolution of Occupy Wall Street. *PLoS ONE*, 8(5). doi:10.1371/journal.pone.0064679.
- Della Porta, D., & Mosca, L. (2005). Global-net for global movements? A network of networks for a movement of movements. *Journal of Public Policy*, 25(1), 165–190. doi:10.1017/S0143814X05000255
- Earl, J., & Kimport, K. (2011). *Digitally enabled social change: Activism in the Internet age*. Cambridge: MIT Press.
- Earl, J., McKee-Hurwitz, H., Mesinas, A. M., Tolan, M., & Arlotti, A. (2013). This protest will be tweeted: Twitter and protest policing during the Pittsburgh G20. *Information, Communication & Society*, 16(4), 459–478.
- ELTRUN. (2013). *Annual study of Greek social media users*. Athens. Retrieved from <http://www.eltrun.gr/wp-content/uploads/2013/10/EthsiaEreynaKoinonikhsDiktyoshs2013-4.pdf>
- Flegenheimer, M. (2011, November 22). After an eviction, digging through a surplus of donations. *The New York Times*. Retrieved from <http://cityroom.blogs.nytimes.com/2011/11/22/ows-storage/>
- Gabbatt, A., Townsend, M., & O'Carroll, L. (2011). "Occupy" anti-capitalism protests spread around the world. *The Guardian*. Retrieved from <http://www.theguardian.com/world/2011/oct/16/occupy-protests-europe-london-assange>
- García-Albacete, G. & Theocharis, Y. (in press). Opportunities and challenges in analysing twitter content: A comparison of the occupation movements in Spain, Greece and the US. In M. Cantijoch, R. Gibson, & S. Ward (Eds.), *Analyzing social media data and web networks: New methods for political science*. London: Palgrave.
- Gerbaudo, P. (2012). *Tweets and the streets: Social media and contemporary activism*. New York, NY: Pluto Press.
- González-Bailón, S., Borge-Holthoefer, J., Rivero, A., & Moreno, Y. (2011). The dynamics of protest recruitment through an online network. *Nature*, 1(197). Retrieved from <http://www.nature.com/srep/2011/111215/srep00197/full/srep00197.html>
- Greece: Is the media part of the problem? 2011. *Al Jazeera*. Retrieved May 11, 2014, from <http://www.aljazeera.com/programmes/listeningpost/2011/06/20116258446620353.html>
- Greenacre, M. J. (1993). *Correspondence analysis in practice*. London: Academic Press.
- Greenhouse, S., & Buckley, C. (2011). Seeking energy, unions join protest against Wall Street. *The New York Times*. Retrieved from <http://www.nytimes.com/2011/10/06/nyregion/major-unions-join-occupy-wall-street-protest.html?pagewanted=all>
- Hounsell, B. (2011). The revolution will be tweeted. *Foreign Policy*. Retrieved from http://www.foreignpolicy.com/articles/2011/06/20/the_revolution_will_be_tweeted
- Huang, R., & Sun, X. (2013). Weibo network, information diffusion and implications for collective action in China. *Information, Communication & Society*. Retrieved from <http://www.tandfonline.com/doi/full/10.1080/1369118X.2013.853817#.Un4ku1OmajY>
- Hughes, A., & Palen, L. (2009). Twitter adoption and use in mass convergence and emergency events. *International Journal of Emergency Management*, 6(3/4), 248–260.
- Jungherr, A., & Jürgens, P. (2013). Through a glass, darkly: Tactical support and symbolic association in Twitter messages commenting on Stuttgart 21. *Social Science Computer Review*. Retrieved from <http://ssc.sagepub.com/content/early/2013/08/22/0894439313500022.abstract>
- Loader, B., & Mercea, D. (2012). *Social media and democracy: Innovations in participatory politics*. London: Routledge.
- Lotan, G., Graeff, E., Ananny, M., Gaffney, D., Pearce, I., & boyd, d. (2011). The revolutions were tweeted: Information flows during the 2011 Tunisian and Egyptian revolutions. *International Journal of Communications*, 5. Retrieved from <http://www.danah.org/papers/2011/IJOC.html>

- Lupia, A., & Sin, G. (2003). Which public goods are endangered?: How evolving communication technologies affect the logic of collective action. *Public Choice*, 117(3–4), 315–331.
- Lynch, M. (2011). After Egypt: The limits and promise of online challenges to the authoritarian arab state. *Perspectives on Politics*, 9(2), 301–310.
- McCarthy, J. D., & Zald, M. N. (1977). Resource mobilization and social movements: A partial theory. *American Journal of Sociology*, 82(6), 1212–1241.
- Meraz, S., & Papacharissi, Z. (2013). Networked gatekeeping and networked framing on #Egypt. *The International Journal of Press/Politics*. doi:10.1177/1940161212474472.
- Mercea, D. (2013). Probing the implications of Facebook use for the organizational form of social movement organizations. *Information, Communication & Society*, 16(8), 1306–1327.
- Milner, H. (2013). Social Media en te representatieve democratie. *Res Publica*, 55, 107–117.
- Norris, P. (2002). *Democratic phoenix: Reinventing political activism*. Cambridge: Cambridge University Press.
- Olson, M. (1965). *The logic of collective action: Public goods and the theory of groups*. Cambridge: Harvard University Press.
- Papacharissi, Z., & de Fatima Oliveira, M. (2012). Affective news and networked publics: The rhythms of news storytelling on #Egypt. *Journal of Communication*, 62(2), 266–282. doi:10.1111/j.1460-2466.2012.01630.x
- Penney, J., & Dadas, C. (2014). (Re)tweeting in the service of protest: Digital composition and circulation in the Occupy Wall Street movement. *New Media & Society*, 16(1), 74–90. doi:10.1177/1461444813479593
- Segerberg, A., & Bennett, L. W. (2011). Social media and the organization of collective action: Using Twitter to explore the ecologies of two climate change protests. *The Communication Review*, 14(3), 197–215.
- Shirky, C. (2008). *Here comes everybody: How change happens when people come together*. London: Penguin.
- Shirky, C. (2011). The political power of social media. *Foreign Affairs*, 90(1), 28–41.
- Theocharis, Y. (2013). The wealth of (occupation) networks? Communication patterns and information distribution in a twitter protest network. *Journal of Information Technology and Politics*, 10(1), 35–56.
- Thorson, K., Driscoll, K., Ekdale, B., Edgerly, S., Thompson, L. G., Schrock, A., ... Wells, C. (2013). YouTube, Twitter and the Occupy Movement: Connecting content and circulation practices. *Information, Communication & Society*, 16(3), 421–451. doi:10.1080/1369118X.2012.756051
- Tremlett, G. (2012). Spain's indignados return to the streets amid fears of crackdown. *The Guardian*. Retrieved from <http://www.theguardian.com/world/2012/may/13/spain-protests-indignados-first-anniversary>
- Tsaliki, L. (2010). Technologies of political mobilization and civil society in Greece: The wildfires of Summer 2007. *Convergence*, 16(2), 151–161.
- Valenzuela, S., Arriagada, A., & Scherman, A. (2012). The social media basis of youth protest behavior: The case of Chile. *Journal of Communication*, 62(2), 299–314. doi:10.1111/j.1460-2466.2012.01635.x
- Van de Donk, W., Loader, B., Nixon, P. G., & Rucht, D. (2004). *Cyberprotest: New media, citizens and social movements*. London: Routledge.
- Van Laer, J., & Van Aelst, P. (2010). Internet and social movement action repertoires. *Information, Communication & Society*, 13(8), 1146–1171. doi:10.1080/13691181003628307
- Yardi, S., & boyd, d. (2010). Dynamic debates: An analysis of group polarization over time on Twitter. *Bulletin of Science, Technology & Society*, 30(5), 316–327. doi:10.1177/0270467610380011