

# #WeAreMaunaKea: Celebrity Involvement in a Protest Movement

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## Abstract

This study examines the involvement of celebrities in Twitter hashtag networks formed in relation to the protest of the construction of a thirty-meter telescope on Mauna Kea, a volcanic mountaintop that is considered as the most sacred of all peaks in the Hawai'ian islands. A network of 4151 Twitter users who used the hashtag #WeAreMaunaKea is used to examine celebrity involvement. Three network metrics (eigenvector centrality, betweenness centrality, and PageRank) were used to examine the prominence of actors in the network. The results show that three celebrities (Nicole Scherzinger, Kelly Slater, and Keahu Kahuanui) have considerable centrality in the network. The results also indicate a positive correlation between in-degree (prestige), out-degree (engagement), and the three metrics. However, the number of followers did not correlate with the centrality of actors. Nicole Scherzinger, who had higher in-degree and out-degree than the others dominated the network in terms of all three metrics. In general, the results indicated that both prestige and engagement matter in celebrity influence.

**Keywords:** #WeAreMaunaKea; Twitter ; Celebrity ; Centrality

**doi:** 10.9776/16311

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## 1 Introduction

In the United States, we live in a fragmented media age. Content from a variety of sources competes for the attention of citizens. Cable and satellite television can deliver hundreds of channels. The Internet provides a plethora of content choices that can be further extended using "apps" on various cell phones and tablet devices. In addition, the participatory media ecology supports the ability for anyone to broadcast to larger audiences that can contribute to newsworthy events. Given the public's preference for entertainment over political content, few political messages may actually reach a substantial fraction of the public sphere (Thrall et al., 2008). As a result, scholars have examined the importance of adhering to the rules of the attention economy (Baumgartner & Jones, 1993; Gitlin, 1980; Tufecki, 2013). For social movements, this can be a particular challenge since lack of attention can limit its overall impact.

### 1.1 Social Movements and Attention

According to Tufecki (2013), attention is a key resource for social movements (p. 849). In addition to being a key resource, it is also a scarce resource in American politics. Only a small number of issues, people or groups command the public's attention for long (Thrall et al, 2008, p. 363). However, if attention can be gained, it can cause public and governmental action on a large scale but there is no guarantee that attention will meet desired outcomes. If anything, attention may bring unwanted threats to the social movement (Tufecki, p. 849). Nonetheless, the advantages to acquiring and maintaining public attention are well worth the effort. To this end, an obvious way to boost attention to a social movement is acquiring one of the engines of today's media system: celebrity appeal (Thrall et al.).

### 1.2 Celebrity Appeal and the Attention Economy

Scholars have debated the value of celebrity influence in politics and social activism. For those with a more traditional view of politics, celebrity involvement invites style over substance. Celebrity and fame are generally understood to be manufactured processes subject to intense media representation and spectacle (Turner, 2013). As politicians seek to become celebrities while celebrities become increasingly involved in politics, the ideals of representative democracy have been compromised because the public has been manipulated by elite marketing tactics (Wheeler, 2013). However, other scholars see value in celebrity politics that may forge new forms of political engagement or confirmation of the onset of post-democratic politics (Brockington & Henson, 2015). In either scenario, new forms of engagement are not as visible in the traditional sense (ex. voting behavior) but acknowledge that celebrities can give political voice through their ability to be 'in touch' with popular sentiment (Street, 2004). For Thrall et al. (2008), celebrities are key players for public attention contributing to a sea change to how politics works in the United States.

The new model is more narrowcasting than broadcasting, more about mobilizing small groups of motivated people than about changing the opinions of millions all at once, and more about building the long-term infrastructure of change than producing short-term influence on the news media agenda. (p. 364)

Celebrities command attention and are more likely to be given media attention despite their lack of expertise (Kurzman et al., 2007). For example, Oprah Winfrey's political endorsement of Barack Obama increased both votes and campaign contributions in the 2008 U.S. presidential election (Garthwaite & Moore, 2013). In advertising research, celebrities gain and keep the attention of consumers (Premeaux 2005, 2009) and help consumers relate to the celebrity (Byrne et al., 2003). As a result, Tufecki (2013) refers to celebrities as one of the important "focusers" in the battle for media attention. Though there are trade-offs as celebrities may alter claims of the social movement and also "drown out some movement claims and constituents" (Meyer & Gamson, 1995, p. 187). Despite these concerns, social movement leaders and participants spend much strategic effort to bring celebrity appeal to their bid for media attention.

### 1.3 Celebrity Types and Practices

According to Turner (2013), celebrity is best understood as "a media process that is best coordinated by an industry, and as a commodity or text which is productively consumed by audiences and fans" (p. 23). Turner further differentiates celebrities by the medium that made them famous. For example, celebrity can be traced to the motion picture industry. Film stars are arguably the "most elaborate and socially grounded instance of the broad phenomenon of modern celebrity" (p. 16). Stars in the motion picture industry play someone else in their performances but can also "submerge their public identity completely in the role being played (as is typical of Robert De Niro, Cate Blanchett, or Johnny Depp)" (p. 16). In contrast, TV stars are more likely to be personalities who perform as themselves. With the rise of reality TV and convergence with other media platforms, TV celebrity has reduced the distinction between film stars. Turner also notes the prominence of the sports celebrity. Sports celebrities rely on their public performances to validate their cultural appeal as deserved (Giles, 2000). Elaborating celebrity is important but it is just as important to acknowledge the fans and non-famous individuals who consume celebrity. In this regard, Marwick and boyd (2011) define celebrity as a practice that is accessible to a greater number of people due to celebrification processes extending through social media. These practices include public recognition of fans, connecting fans to cultural affiliations, and performances of intimacy and authenticity and can be practiced by non-famous individuals (micro-celebrities). Scholars have demonstrated that through the "perception of proximity" (Beer, 2008) celebrities can directly communicate with their audience and promote activist causes (Bennett, 2013; Click, Lee, & Holladay, 2013).

### 1.4 Twitter and protest

Scholars have demonstrated the effectiveness of Twitter for collective action in social movements. In a recent study of the *indignados* movement in Spain (Gonzalez-Bailon, Borge-Holthoefer and Moreno, 2013), Twitter activity by influential users in the network (celebrities and broadcasters) created global cascades of information. These users helped to project the social movement's message to a wider audience. However, hidden influentials, such as local grassroots leaders, gave the social movement identity and framing. The authors conclude that the unlikely alignment of influentials, hidden influentials, and common users raised the *indignados* social movement to global significance.

Various Twitter affordances have been linked to the success of online social movements. Bruns and Moe (2014) contend that certain important hashtags represent ad hoc publics that can function similar to an offline protest gathering. According to Gleason (2013), Twitter's affordances such as the brevity of speech, hyperlinks, and hashtags supported informal learning opportunities for the Occupy Wall Street (OWS) movement. Citing Sheridan, Ridolfo and Michel (2012), Penny and Dadas (2011) also noted how the brevity of messages encouraged rapid textual exchange that almost seems to be purposefully designed for quick circulation. Thus, for social movements, attention to circulation becomes a "major consideration in how users capitalize on the affordances of Twitter" (p. 77). Thus, rapid circulation of texts allowed OWS to create a counterpublic where tweets about the movement occur outside the structures of mainstream media. In addition, Penny and Dadas demonstrated that Twitter activity through smartphones provided on-the-ground accounts that integrated offline and online protest

activities. The rapid circulation of texts amplified the "rhetoric of face-to-face protests and contribute[d] to the growth of the movement across physical boundaries" (p. 89).

### 1.5 We Are Mauna Kea Event

For Native Hawaiians, the summit of Mauna Kea is considered sacred ground. In April 2015, members of the Mauna Kea Hui protested the construction of the thirty meter telescope (TMT) on the Big Island in Hawai'i. Protestors blocked construction crews on the road leading to the Mauna Kea summit. Though Mauna Kea Hui had been protesting the development of the TMT in prior years, the one week April standoff between protestors and state officials became a media event attracting attention among local, national and international media. As a result, the social movement gained tremendous momentum actively utilizing social media platforms to counter negative or incorrect statements about the Native Hawaiian perspective on science, land (aina), and technological progress. Using Twitter, Facebook and Instagram, protestors linked to prominent Native Hawaiian blogs and alternative media outlets to circulate stories and accounts ignored by traditional media venues in Hawai'i. Certain celebrities also became active in the anti-TMT movement notably A-list Hawaiian TV and film stars such as Jason Momoa (Khal Drogo in *Game of Thrones*), and Nicole Scherzinger (*Pussycat Dolls*, *The X-Factor U.K.*). Other less well-known celebrities also joined the cause. The intense amount of media attention on the issue contributed to a growing concern about the TMT construction project goals and the sacredness of the summit of Mauna Kea among not only Native Hawaiians but others disturbed about the marginalization of Indigenous values and culture. On April 7, Governor David Ige announced a "timeout" to the TMT construction project (Star-Advertiser, 2015). Although there were a multitude of factors that came into place to aid the social movement's goal of preventing the TMT construction, celebrity influence was considered an important factor by local media (Tsai, 2015). The purpose of this study is to examine the amount of celebrity involvement and influence on Twitter during one critical week of protest in April 2015.

## 2 Method

Data for the study was obtained using the API tool of the NodeXL template. This plugin allows scraping of hashtag networks. Nodes of these networks represent the users and the edges represent reply-to and mention relationships. NodeXL data also includes self-loops for original tweets. As the population is defined based on the hashtag (i.e. every user who mentioned the hashtag), data obtained show how users are connected to each other within the hashtag population. A search for #WeAreMaunaKea using the plugin provided a network of 4151 users with 7760 edges. This network, however, considers the use of #WeAreMaunaKea for one week from April 7 to 14, 2015. This week was an important period as the protest activity was high during this week. Accordingly, the dataset was a subset of population of tweets that included the hashtag which was obtained during a high activity period. Data analysis focused on network and node-level network analysis as well as correlations between metrics. Five node-level network metrics were calculated using the NodeXL template (in-degree, out-degree, eigenvector centrality, betweenness centrality, and PageRank). We also used Gephi for visualization and calculating overall metrics. NodeXL data were analyzed using SPSS to further examine correlations between metrics.

In directed networks, in-degree refers to the number of edges directed towards a node and out-degree shows the number of edges directed from the node. Average path length shows the size of a network and it is measured by the mean distance between all pairs of nodes in the network (Barabási, 2012). Modularity is a community detection technique in network analysis, and examines sub-graphs within a graph, and a positive value indicates the presence of community structure (Newman, 2006). According to Newman, modularity is "up to a multiplicative constant, the number of edges falling within groups minus the expected number in an equivalent network with edges placed at random" (p.8578).

This study uses centrality measures to examine the influence of celebrities in the #WeAreMaunaKea network. Centrality can be used to measure the importance of a node within a network (Zafarani, Abbasi, & Liu, 2014) as they help identify highly connected actors and actors that occupy important positions (e.g. between distant groups of actors). Therefore, centrality metrics can show the most "powerful" actors in the network. For instance, Twitter users with high centrality have the ability to reach out to larger networks than regular users which results in them being more powerful in terms of providing information to the network. Moreover, having an actor with high centrality in one's Twitter network who may retweet the messages can mean that the user can access a larger network which he may not otherwise have access. Therefore, centrality metrics are appropriate to examine the role of "power players" in a network.

Accordingly, the notion of power in this study means centrality in the network. We use three main centrality metrics in this study: this study uses three centrality metrics to examine ego-level dynamics: eigenvector centrality, betweenness centrality and PageRank. These three measures can be used to study centrality of actors from three different perspectives, i.e., centrality of an actor based on: 1) the importance of his neighbors (eigenvector centrality), 2) the centrality passed by other nodes divided by the out-degree, therefore, emphasizing the value of actors based in the in-links they have (PageRank), and 3) the extent to which a node is located between other pairs of vertices, therefore, the ability of actors to connect distant groups (betweenness centrality). These three centrality metrics can provide an overall evaluation of the power of individual nodes in a network.

### 3 Analysis

Data analysis was conducted in four steps. First, several overall network metrics were calculated to describe the nature of the network. Second, a node-level (ego-level) analysis was conducted to identify the centrality of celebrities in the network. In the third step, we examined the ego-networks of the top three celebrities. Finally, Spearman's rank correlation was used to examine relationships between the number of followers, degree of nodes, and centrality.

The average degree of the #WeAreMaunaKea network was 1.869 and average weighted degree was 2.409. Average path length of the network was 4.296. The network showed considerable modularity (0.719), indicating that the network has a strong community structure. These values were different from a random ( $G(n,p)$ ) network of the same size, indicating that the dataset captures a real-world phenomenon.

Table 1 shows in-degree, out-degree, and centrality values of the top ten celebrities in the network. To categorize celebrity, we loosely applied Thrall et al.'s (2008) approach to star power by focusing on how many overall news stories appeared for the celebrity and also the number of hits their names appeared in a Google search. By definition, micro-celebrities lack star power in a traditional sense. It is noticeable that Nicole Scherzinger (nicolescherzy), Kelly Slater (kellyslater), and Keahu Kahuanui (keahukahuanui) are more powerful in this network than other celebrities (mainly based on high betweenness centrality and PageRank). Although celebrities such as Antonio Sabato Jr. had a high number of followers, they do not have as much power as the above three celebrities. The centrality of the above three celebrities seem to relate mainly to their in-degree and out-degree as they have higher in-degree or out-degree than the other celebrities in the network.

Table 1: In-degree, Out-degree, Centrality, and Pageranks of Celebrities

Vertex	In-degree	Out-Degree	Eigenvector Centrality	Betweenness Centrality	PageRank	Followers	Celebrity Category
nicolescherzy	494	9	0.019	2924498.743	112.393	5233460	A List
antoniosabatojr	1	4	0.001	3896.034	0.895	568721	A List
kellyslater	155	1	0.002	791404.003	44.609	442418	B List
bjpenndotcom	37	1	0.002	61442.710	6.888	414596	B List
gtongi	1	1	0.000	0.000	1.000	368349	B List
colbiecaillat	0	2	0.000	0.000	0.471	342018	B List
keahukahuanui	76	1	0.000	429623.429	32.047	205890	C List
alanritchson	0	3	0.001	0.000	0.644	172488	C List
bubs	7	1	0.000	25033.426	2.541	138615	Micro
champagnie	1	1	0.000	6166.000	1.028	99991	Micro
franktrigg	0	1	0.000	0.000	0.395	94041	C List
nauticathorn	10	3	0.000	72.000	3.407	89285	C List

The above observation can be used to ask several questions: what is the relationship between the activity level and celebrity status (as indicated by the number of followers) and centrality of actors? To what extent are the ego-networks of the above three celebrities cover the #WeAreMaunaKea network? How powerful are they compared to other actors in the network? The following analysis aims to answer these questions. First, we use Spearman's rank correlation to examine relationships between the number

of the followers (popularity), in-degree (prestige within the network), out-degree (engagement), and centrality. Then, we analyze the ego-networks of the top three celebrities. Finally, we examine the top actors in the network to see whether any celebrity is ranked among them.

According to the results given in Table 2, it is noticeable that in-degree and out-degree of network nodes have moderate to strong correlation with centrality of actors. Specially, in-degree has a high correlation with PageRank (0.747,  $p < 0.01$ ) and out-degree has a somewhat high correlation with betweenness centrality (0.662,  $p < 0.01$ ). This means that those who are mentioned or replied-to by the users have better chances of having high PageRank which indicates prestige or popularity. Moreover, those who send out tweets, reply-to or mention others have high betweenness centrality, or the ability to connect different user groups. The number of followers, however, did not correlate strongly with any of the network metrics. These results show that the power (or centrality) of actors mainly originate from activity within the network. In other words, a celebrity is not prominent in an ad hoc hashtag community unless he or she is called out by others or is actively tweeting with the hashtag.

Table 2: Spearman's rho between the Number of Followers, In-degree, Out-degree, and Centrality

	Betweenness Centrality	Eigenvector Centrality	PageRank
Number of followers	.126(**)	.093(**)	.008
	.000	.000	.621
In-degree	.329(**)	.100(**)	.747(**)
	.000	.000	.000
Out-degree	.662(**)	.425(**)	.387(**)
	.000	.000	.000

\*\* Correlation is significant at the 0.01 level (2-tailed).

Although the correlations above provide interesting insight to understand the role of the number of followers, in-degree, and out-degree in the network, these results do not necessarily support causality. We were unable to use regression to further examine effects of these three variables on centrality as the degree distribution approximated a power-law as indicated by close alpha values (distribution: 2.162302 and fitted: 2.140395) and a close-to-one  $p$  value (0.9908013). Networks that approximated power-laws have skewed degree distributions that indicate the presence of a few highly connected nodes and a large number of low-degree nodes. Further, the number of followers as a distribution did not indicate normality. Therefore, examining the connectedness of prominent actors is an appropriate approach to understand the network.

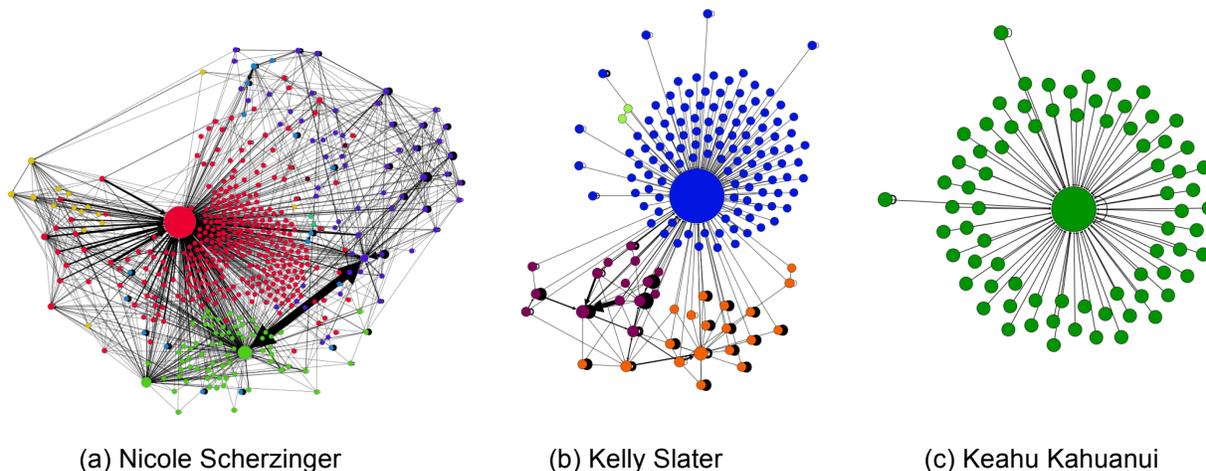
Table 3 shows details of the ego-networks of the top three powerful celebrities in the network. Accordingly, Nicole Scherzinger has the largest ego network (17.1% of the main network) and Keahu Kahuanui has the smallest network among the three celebrities (1.01% of the network). Kelly Slater's ego network represents 3.17% of the #WeAreMaunaKea network. Nicole Scherzinger's ego network included three communities (modularity clusters) and Kelly Slater's and Keahu Kahuanui's networks included four and one community respectively. Figure 1 provides a visualization of the three ego-networks. These results indicate that Nicole Scherzinger is the most powerful celebrity figure in this network.

Table 3: Properties of the Ego-networks of Celebrities with High Centrality

Metric	Nicole Scherzinger	Kelly Slater	Keahu Kahuanui
Edges	1327 (17.1% of the main network)	246 (3.17% of the main network)	78 (1.01% of the main network)
Nodes	499 (12.02% of the main network)	155 (3.73% of the main network)	76 (1.83% of the main network)

	main network)	network)	network)
Average degree	2.659	1.587	1.026
Average weighted degree	4.595	3.561	1.039
Average path length	3.561	1.417	1
Modularity	0.311(8 communities)	0.339 (4 communities)	0 (1 community)

Figure 1: Ego-networks of Nicole Scherzinger, Kelly Slater, and Keahu Kahuanui



Note: node colors represent modularity partitions, Force Atlas 2 Layout, node size represents degree. Node sizes are not consistent between networks.

The role of celebrities in the network should be understood in the context of their power in the complete network. Therefore, their position in the network should be compared with the top actors to see if the celebrities hold power positions in the network. Table 4 provides a list of the top ten actors for five network metrics in the #WeAreMaunaKea network. According to Table 4, Nicole Scherzinger dominates the entire network in terms of four metrics (in-degree, eigenvector centrality, betweenness centrality, and PageRank). In addition, Kelly Slater ranks among the top ten actors in terms of in-degree, betweenness centrality, and PageRank. Keahu Kahuanui, although had high centrality among celebrities, did not rank among top actors in the network. However, none of the top celebrities were included in the top ten list based on their activity level (out-degree).

Table 4: Top Ten Actors in the Network

In-degree	Out-degree	Eigenvector Centrality	Betweenness Centrality	Pagerank
Nicolescherzy (494)	Ecointernet (127)	Nicolescherzy (0.019)	Nicolescherzy (2924498.743)	Nicolescherzy (112.393)
Protectmaunakea (234)	Haynharmonizer (82)	Ecointernet (0.012)	chaaarli_ (1143336.279)	chaaarli_ (76.246)
chaaarli_ (231)	ei_indigenous (81)	Protectmaunakea (0.011)	breeeeenn_ (821784.481)	breeeeenn_ (53.634)
breeeeenn_ (165)	Hawaiiecology (78)	ei_indigenous (0.008)	Ecointernet (812917.948)	beauty5318 (44.861)
Kellyslater (155)	ei_rainforest (71)	Hawaiiecology (0.007)	Kellyslater (791404.003)	dawnya_hokulani (44.701)
dawnya_hokulani (146)	Drglenbarry (64)	Drglenbarry (0.007)	Haynharmonizer (711177.421)	Kellyslater (44.609)
Brookekahea (105)	ei_water (59)	ei_rainforest (0.007)	Protectmaunakea (697011.437)	Protectmaunakea (43.820)
Jxnmommy (102)	ei_ocean (55)	ei_water (0.006)	eeye363	Keahukahuanui

			(685854.321)	(32.047)
beauty5318 (97)	ei_sustaindev (54)	ei_ocean (0.006)	dawnya_hokulani (658389.421)	Brookekahea (31.882)
Bbctrending (95)	dktr_sus (53)	greenliberty16 (0.005)	Brookekahea (482812.587)	Ecointernet (29.998)

#### 4 Conclusions

The impact of celebrities in the #WeAreMaunaKea network results from a combination of in-degree and out-degree. The number of Twitter followers is not strongly related to the centrality of celebrities within the hashtag network. This shows that having Twitter followers itself does not guarantee the celebrity influence. There are two ways that could bring celebrity influence to the network: 1) celebrities should be actively engaged with the issue by tweeting, replying-to tweets, and mentioning other users, and 2) users need to mention or reply to celebrities. This shows that both prestige and engagement matter in celebrity influence. Only Nicole Scherzinger is the real celebrity power actor in the network, and this results from her engagement and prestige within the network indicated by out-degree and in-degree respectively. Compared to other actors, none of the celebrities were ranked in the top ten out-degree list. This shows that other actors are more engaged with the Mauna Kea issue than celebrities. However, the fact that Nicole Scherzinger dominates the network in terms of centrality shows that, although she is less engaged than other non-celebrity actors, her prestige has positively affected her centrality in the network. It should be noted that Nicole has sent out nine tweets with the hashtag, which also considerably affects her centrality in the network.

These results provide important insight to understand celebrity involvement in protest action using Twitter hashtags. Contrary to the traditional view of celebrity politics, our study demonstrated that celebrities are an important player in social movements particularly in a post-democratic world. Previous research has also shown that Twitter has the power to bring in “politically interested but unaffiliated users to become integral actors within the sphere of discourse of the political center” (Maireder & Ausserhofer, 2014, p. 316). Furthermore, the affordances of the Twitter hashtag helps to create an ad hoc issue public (Bruns & Moe, 2014). In the #WeAreMaunaKea hashtag, celebrities were the politically interested but unaffiliated users and became integral actors within the ad hoc issue public. Their ability to focus attention on a local issue even in a place as remote as Hawai‘i is a statement of the strength of the attention economy. Our study shown that their active involvement in the hashtag was quite significant and surpassed local news outlets. Yet, we also need to recognize the nature of the parasocial interactions that occurred between celebrities and their fans. Supporters of the #WeAreMaunaKea social movement were quick to recognize the attention celebrities could bring to their issue. Many celebrities (Barack Obama, Lady Gaga, etc) were called out by social movement supporters to make a statement on Mauna Kea. Accordingly, it is no coincidence that the three celebrities of influence on the Mauna Kea movement shared a common trait. They all had a strong connection to Hawai‘i by being kama‘aina (local). In this regard, their commitment to the social movement can be perceived as more authentic because kama‘aina is part of their identity and provides another connection with their fans both in Hawai‘i and elsewhere. In a future study, these results need to be discussed further drawing on concepts and previous studies discussed in the beginning sections of the paper. Moreover, further analysis triangulating different methodologies (e.g. content analysis) should be used to strengthen the findings.

#### 5 References

- Barabási, A. (2012). *Network Science*. Retrieved from <http://barabasilab.com/networksciencebook>
- Baumgartner, F. R., & Jones, B. D. (1993). *Agendas and instability in American politics*. Chicago: University of Chicago Press.
- Beer, D. (2008). Making friends with Jarvis Cocker: Music culture in the context of Web 2.0. *Cultural Sociology*, 2(2), 222-241. doi:10.1177/1749975508091034
- Bennett, L. (2013). ‘If we stick together we can do anything’: Lady Gaga fandom, philanthropy and activism through social media. *Celebrity Studies*, 1-15. doi:10.1080/19392397.2013.813778
- Brockington, D., & Henson, S. (2015). Signifying the public: Celebrity advocacy and post-democratic politics. *International Journal of Cultural Studies*, 18(4), 431-448. doi:10.1177/1367877914528532

- Bruns, A., & Moe, H. (2014). Structural layers of communication on Twitter. In K. Weller, A. Bruns, J. Burgess, M. Mahrt, & C. Puschmann (Eds.), *Twitter and society* (pp. 15-28). New York: Peter Lang.
- Byrne, A., Whitehead, M., & Breen, S. (2003). The naked truth of celebrity endorsement. *British Food Journal*, 105(4/5), 288-296. doi:10.1108/00070700310477086
- Click, M. A., Lee, H., & Holladay, H. W. (2013). Making monsters: Lady Gaga, fan identification, and social media. *Popular Music and Society*, 36(3), 360-379. doi:10.1080/03007766.2013.798546
- Garthwaite, C., & Moore, T. J. (2013). Can celebrity endorsements affect political outcomes? evidence from the 2008 US democratic presidential primary. *Journal of Law Economics & Organization*, 29(2), 355.
- Gitlin, T. (1980). *The whole world is watching: Mass media in the making & unmaking of the New Left*. Berkeley: University of California Press.
- Gleason, B. (2013). #Occupy Wall Street: Exploring informal learning about a social movement on Twitter. *American Behavioral Scientist*, 57(7), 966-982. doi:10.1177/0002764213479372
- González-Bailón, S., Borge-Holthoefer, J., & Moreno, Y. (2013). Broadcasters and hidden influentials in online protest diffusion. *American Behavioral Scientist*, 57(7), 943-965. doi:10.1177/0002764213479371
- Kurzban, R., Anderson, C., Key, C., Lee, Y. O., Moloney, M., Silver, A., & Van Ryn, M. W. (2007). Celebrity Status\*. *Sociological Theory*, 25(4), 347-367. doi:10.1111/j.1467-9558.2007.00313.x
- Marwick, A., & boyd, d. (2011). To see and be seen: Celebrity practice on Twitter. *Convergence: The International Journal of Research into New Media Technologies*, 17(2), 139-158. doi:10.1177/1354856510394539
- Maireder, A., & Ausserhofer, J. (2014). Political discourses on Twitter. In K. Weller, A. Bruns, J. Burgess, M. Mahrt, & C. Puschmann (Eds.), *Twitter and society* (pp. 305-318). New York: Peter Lang.
- Meyer, D. S., & Gamson, J. (1995). The challenge of cultural elites: Celebrities and social movements\*. *Sociological Inquiry*, 65(2), 181-206. doi:10.1111/j.1475-682X.1995.tb00412.x
- Newman, M. E. J. (2006). Modularity and community structure in networks. *Proceedings of the National Academy of Sciences of the United States of America*, 103(23), 8577-82. doi:10.1073/pnas.0601602103
- 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
- Premeaux, S. R. (2005). The attitudes of middle class male and female consumers regarding the effectiveness of celebrity endorsers. *Journal of Promotion Management*, 11(4), 33-48. doi:10.1300/J057v11n04-04
- Premeaux, S. R. (2009). The attitudes of middle class versus upper class male and female consumers regarding the effectiveness of celebrity endorsers. *Journal of Promotion Management*, 15(1/2), 2-21. doi:10.1080/10496490902854820
- Sheridan, D. M., Ridolfo, J., & Michel, A. J. (2012). *The available means of persuasion: Mapping a theory and pedagogy of multimodal public rhetoric*. Anderson, S.C.: Parlor Press.
- Star-Advertiser. (2015, April 7). Ige: 'Timeout' on Mauna Kea telescope construction. *Honolulu Star-Advertiser*.
- Street, J. (2004). Celebrity politicians: Popular culture and political representation. *The British Journal of Politics & International Relations*, 6(4), 435-452. doi:10.1111/j.1467-856X.2004.00149.x
- Thrall, A. T., Lollio-Fakhriddine, J., Berent, J., Donnelly, L., Herrin, W., Paquette, Z., . . . Wyatt, A. (2008). Star power: Celebrity advocacy and the evolution of the public sphere. *The International Journal of Press/Politics*, 13(4), 362-385. doi:10.1177/1940161208319098
- Tsai, M. (2015, April 13). Celebrities use fame to protest Mauna Kea telescope. *Honolulu Star-Advertiser*, p. A1.
- Tufekci, Z. (2013). "Not This One": Social movements, the attention economy, and microcelebrity networked activism. *American Behavioral Scientist*, 57(7), 848-870. doi:10.1177/0002764213479369
- Turner, G. (2013). *Understanding celebrity* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Wheeler, M. (2013). *Celebrity politics: Image and identity in contemporary political communications*. Cambridge: Polity.
- Zafarani, R., Abbasi, M. A., & Liu, H. (2014). *Social media mining: An introduction*. Cambridge University Press.