

Movember: Twitter Conversations of a Hairy Social Movement

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Abstract

Movember is an annual “month-long celebration of the moustache” where men grow a mustache and raise money in the largest philanthropic endeavor for men’s health. Movember is predominantly an online campaign, and consequently, participants have actively embraced social media; this is evidenced in the 1,879,994 tweets collected during Movember 2012 in this research project. This article presents an analysis of Movember that examines how individuals use the numerous syntactical features of Twitter to engage in conversation and share information in order to develop a nuanced understanding of how people are utilizing social media as part of the social movement. While Movember has been successful in gaining traction on social media, the Twitter data point to surprising conclusions that have implications for understanding non-profits and social movements online. The following study provides two main contributions to existing sociotechnical social movement literature using a mixed-methods approach. First, the findings suggest that there is limited true conversation taking place although the stated purpose of the campaign is to facilitate conversation. Second, the findings identify that participants are more engaged with Movember as a branded movement than engaged in health promotion. While the tweets are conversational in form, they are largely not conversational in function, which points to Twitter being used as a broadcast tool in this context. These findings have broad implications for understanding how social media is used to engage individuals in social campaigns and engage with each other and share information.

Keywords

Movember, Twitter, social movement, non-profits, big data, social media, men’s health

Introduction

Movember is an annual “month-long celebration of the moustache” where men grow a mustache and raise money for prostate cancer and men’s health (“About,” Movember US, 2009, para 2). Men around the world begin 1 November clean-shaven, and throughout the month they grow and shape their mustaches to raise money and awareness. The mustache acts as a billboard for men’s health to initiate conversations with family, friends, and strangers.

Men and women, or Mo Bros and Mo Sistas, come together at the end of the month to celebrate the journey at Gala Partés hosted in various cities around the world where men dress to suit their mustaches. In 2012, over 1.1 million men and women around the world raised AUD\$141.5 million, making Movember the largest philanthropic endeavor for men’s health to date (Movember US, 2013). Movember is predominantly an online health campaign, and consequently, participants have actively embraced and utilized social media for Movember; this is evidenced in the number of tweets during the 2012 campaign reaching almost 2 million.

Movember is a relatively new charitable fundraiser, and there has been limited research on this growing non-profit organization. To date, there has been very little analysis of Movember. The first comprehensive academic analysis of Movember was conducted by the first author (Jacobson, 2009). This research presented a qualitative analysis of the marketing and branding of cancer philanthropy and did not present an analysis of large-scale social media content (Jacobson, 2009). More recently, Robert (2013) analyzed health-related fundraisers that utilize temporary body modification with a focus on Movember and Julyna, while Wassersug, Oliffe, and Han (2015) compared Movember’s

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fundraising strategies with the history of prostate cancer awareness that typically relied on masculine stereotypes. Research at the intersection of Movember and use of social media is even more limited: Prasetyo, Hauff, Nguyen, van den Broek, and Hiemstra (2015) conducted a multi-country analysis of Movember to analyze the impact of tweets on donations, and Bravo and Hoffman-Goetz (2015) conducted a content analysis of 4,222 Canadian tweets to determine what topics were discussed on Twitter.

The lack of understanding surrounding how social media can be used to engage others in the context of men's health represents a significant gap in the literature. This article presents a quantitative analysis of Movember, which examines the use of Twitter-specific syntactical features, an analysis of the conversational networks, and the information shared in the context of URLs. The combination of these approaches helps to build an understanding of how people are utilizing social media as part of this online health campaign and social movement.

Social Media by Non-Profit Organizations

Recent scholarship has analyzed the affordances of digital media as a tool for non-profit organizations. Most non-profit organizations have not fully embraced social media, and those that do typically employ a one-way communication strategy with a focus on spreading information, rather than conversation (Sisco & McCorkindale, 2013). A small, but growing, body of research has focused on how non-profit organizations are employing social media (Nah & Saxton, 2013; Sisco & McCorkindale, 2013; Waters, Burnett, Lamm, & Lucas, 2009). Online fundraising is one of the most effective ways of receiving funds for non-profits (Neff & Moss, 2011), and non-profit organizations undoubtedly acquire clout through engagement with the social network (Tatarchevskiy, 2011).

There is currently a gap between broadcasting information and "dialogue" on Twitter by non-profits (Waters, Burnett, Lamm, & Lucas, 2009). The spread and adoption of social media have ushered new ways for non-profits to communicate with stakeholders and the public (Lovejoy & Saxton, 2012). However, non-profit organizations have not capitalized on using Twitter as a tool to mobilize and build community mobilization (Waters, Burnett, Lamm, & Lucas, 2009). Non-profit and health organizations need a more strategic approach in using Twitter as a tool for health communication (Park, Rodgers, & Stemmler, 2013).

Use of social media is changing the health-care industry (Hawn, 2009) and health communication campaigns. Social media can be used by health organizations to reach traditionally underserved members since social media is used across demographic groups, but Chou, Hunt, Beckjord, Moser, and Hesse (2009) identified that health campaigns need to be cognizant of their targeted

population. Viral social media marketing campaigns have, however, been successfully used to encourage friends to participate in health campaigns (Thackeray, Neiger, Hanson, & McKenzie, 2008).

The annual breast cancer awareness campaign in October has been found to effectively stimulate online activities (Glynn et al., 2011). However, Thackeray et al. (2013) found that people tweeted about wearing pink rather than early detection of breast cancer. Scholars have challenged the culture surrounding breast cancer, the breast cancer movement, and the politics surrounding the pink ribbon (Ehrenreich, 2001; King, 2003, 2006; Klawiter, 2004).

Movember as an Online Health Campaign

Movember is a philanthropic organization that embraces online tools to place a dual focus on raising money and encouraging conversations about men's health. Movember is a word of mouth campaign and is actively promoted as a grassroots campaign ("About," Movember US, 2009, para 4). Mo is the Australian slang word for the mustache and is also utilized as a prefix for various branded terms, such as Mo Bros, Mo Sistas, Mo Community, and Mo Store. Movember's slogan, "changing the face of men's health," is a double entendre: (1) a playful change of a man's face with a mustache and (2) a global movement promoting the future of men's health. The primary forms of active participation are growing a mustache and donating money.

The act of tweeting is an act of self-representation (Murthy, 2012), whereby one writes oneself into the specific narrative. Considering that Movember is principally an online campaign, social media lies at the forefront of how people build community, interact with, and talk about Movember. Movember acknowledges and celebrates the role that social media plays in the social movement:

At its core, Movember is a word of mouth campaign driven by in-person communication and reinforced through digital media . . . Social change comes about as a result of powerful and personal story-telling and this is where social media plays such an important role in Movember fulfilling its objectives. (Movember, 2012, p. 30)

Movember participants embrace Twitter, email, the Movember website, and Facebook as prominent modes of communication.

The "authenticity" of the grassroots campaign is constantly promoted as Movember grows and becomes a global movement, rather than a localized grassroots movement. Movember attributes the expansion to genuine supporters outside Australia. Movember's word of mouth campaign is supported by "viral social media exposure" (Siemens, 2012, p. 349), which has resulted in the spread of Movember since 2003 to have an official presence as a fundraising organization in over 14 countries (Annual Report, 2012, p. 9).

Academic research related to Movember is limited and provides a very short introduction to the campaign. Much of this research is concentrated in popular medical journals (Kiernan, 2012; Siemens, 2012; Wright, 2012). Peterkin (2012) narrates the history of the mustache through time and also introduces Movember as a charitable movement. Despite the relative dearth of academic research, Movember has caught the public's attention and, in recent years, has frequently been discussed in various traditional and new media outlets.

In the context of analyzing the future of non-profit organizations, Neff and Moss (2011) state,

The success of the Movember campaign is based on the fact that the Movember foundation engages individuals in fundraising in their own creative and unique ways, and not having a 'command and conquer' system with prescribed fundraising methodologies, rules, and regulations. (p. 180)

Neff and Moss (2011) state that the only overhead expense is the end of month party, called Gala Partés. However, over time, Movember has grown and has offices in various cities around the world, employs numerous full-time staff, and has various other overhead expenses.

Movember as a Social Movement

Movember is an online health campaign, but is also classified as a social movement. There is little consensus in developing definitional precision of terms like activism and social movements (see Garrett, 2006; Kedrowski & Sarow, 2007). Sturken (2012) states, "activism is not what it used to be" (p. x). Harlow (2012) takes a holistic approach in defining activism as ". . . the actions of a group of like-minded individuals coming together to change the status quo, advocating for a cause, whether local or global, and whether progressive or not" (p. 228). Movember is not seeking to overhaul the status quo, but is certainly advocating for a cause, specifically men's health. Growing a mustache for Movember may not be radical activism; rather, it perpetuates the participants' sense of collective identity. Similarly, donating money is an active form of participation, but it involves no risk or commitment (Van Laer & Van Aelst, 2010).

A definition of an online social movement is similarly disputed (McAdam, McCarthy, & Zald, 1996). Crow and Longford (2004) identify three categories of online social movements: first, an institutionalized group that uses online tools as merely one method among many to spread information; second, established organizations that chiefly rely on online tools for communication, which are typically smaller organizations; finally, a wholly online movement made up of individual volunteers that organize around a single topic. While Movember does not fit neatly within the three categories, the movement lies most firmly within the first and second categories. Movember is an established

and large organization that makes use of professional web design teams and also chiefly relies on online outreach and organization.

An attempt to develop, categorize, and define a social movement is inherently difficult. It is easy to conceptualize a women's movement due to the historical unequal power relations that exist between men and women, or even a women's health movement considering the tremendous strides of the breast cancer movement; however, a men's movement is conceptually problematic given the dominant position of men in hegemonic society. Ruzankina (2010) discusses men's movements that appear as a backlash to women's movements: "As a phenomenon of the second half of the twentieth century, men's movements are one type of so-called new social movements" (p. 10). Movember may certainly be considered a type of men's movement that is, admittedly, "inspired by the women's health movement" (Annual Report, Movember US, 2009, p. 9). Adam Garone, CEO and co-founder of Movember, admits, "Movember is, at its core, a digital and social movement" (as cited in Lafferty, 2012).

A reoccurring theme in defining social movements is participants' sense of a collective identity (Diani, 1992). Collective identity refers to "an individual's cognitive, moral, and emotional connection with a broader community, category, practice, or institution" (Polletta & Jasper, 2001, p. 285). Silver (2007) acknowledges that "collective identity formation is part and parcel of social movement action" (p. 498). Similarly, Rucht (1996) states that a social movement is "an action system comprised of mobilized networks of individuals, groups and organizations which, based on a shared collective identity, attempt to promote social change. . ." (p. 207). Indeed, the concept of a shared identity is important in understanding a social movement.

Technology and digital media play a complex role in mobilizing social movements and political participation (Bennett, 2003; Harlow, 2012; Murthy, 2012; Rheingold, 2008). Various case studies have analyzed the role of Twitter in social movements—in what is colloquially dubbed the "Twitter Revolution"—such as Occupy Wall Street (Conover, Ferrara, Menczer, & Flammini, 2013; Gleason, 2013; Thorson et al., 2013) and the Arab Spring (Bruns, Highfield, & Burgess, 2013; Jansen, 2010; Lotan et al., 2010; Papacharissi & De Fatima Oliveira, 2012; Tufekci, 2012). While Twitter was not developed with the intention of fostering community, real connection in an "imagined community" can be fostered on Twitter (Anderson, 1983; Gruz, Wellman, & Takhteyev, 2011).

Use of Social Media in Developing a Collective Identity

Information and communication technologies (ICTs), such as social media, have afforded social movements the "reduction of participation costs, promotion of collective identity and creation of community" (Garrett, 2006, p. 204). Castells

(2012) analyzes the “nature and perspectives of networked social movements” (p. 4). Vegh (2003) identifies three categories of online activism: awareness/advocacy, organization/mobilization, and action/reaction. Heavy use of ICTs is not unique to Movember as a social movement; ICTs have been used to reduce production costs (Bonchek, 1995), promote collective identity, and create a sense of community among participants (Garrett, 2006). Accordingly, the “normal, non-disruptive use of the Internet in support of an agenda or cause” culminates in Movember participants’ online activism (Denning, 1999, p. 241).

Movember can, perhaps, best be conceptualized as a new social movement. New social movements place emphasis on social and cultural changes, rather than political change. As a result, the tactics are less about radical change to the status quo, but rather involvement in a social cause. Melucci (1989) argues that the goal of new social movements is the development of collective identities.

Movember’s 2009 Annual Report claims that a sense of togetherness was the second leading influence for participants joining Movember. Collective identity plays an imperative role in Movember as men band together with the physical signifier of the mustache. Unlike the temporary ribbons that have been adopted by other philanthropic organizations, for the entire month of November, the mustache is a permanent signifier (Jacobson, 2009). Typically, a person involved in a movement is merely identified as a participant, whereas the discursive signifier of *becoming* a Mo Bro or a Mo Sista provides a heightened sense of collective identity in the Movember movement.

Use of digital media allows for collective identity to emerge; Movember harnesses the communicative tools on social media to recruit participants, grow the social movement, raise money, and provide a vehicle for communication between Mo Bros and Mo Sistas.

Research Questions

Based on the dearth of scholarly research on Movember, our research has a twofold goal: first, develop an in-depth foundational understanding of Movember and, second, provide a methodological contribution as to how an online campaign can be analyzed on Twitter in order to provide nuanced insight. Since Movember places primary importance on having conversations about men’s health (Annual Report, 2012), we focus on tweets that are conversational in nature. These are conceptualized as at-reply tweets (those tweets that begin with @[username]). These research questions attempt to adapt the existing literature on social movements to social media with a focus on Movember:

1. What do the syntactical features used by participants identify about individual use of social media to discuss Movember?
2. To what extent is conversational activity about Movember and men’s health occurring in Twitter?

3. What type of information is shared via URLs in conversational activity surrounding Movember?

Methods

Twitter was selected as the locale of the data collection because the research is focused on the online conversational activity of Movember. Unlike Facebook, which is largely used for private postings among friends due to the two-way friend requests that both individuals need to accept, Twitter is a public social network that requires only a one-way request to follow another and tweets are usually publicly accessible. The data were collected using the TwitterZombie infrastructure (Black, Mascaro, Gallagher, & Goggins, 2012).¹

The set of 13 queries (see Table 1) was added to the collection system on the morning of 31 October and was collected at an interval of once every minute throughout the month of November ending on 1 December. Each minute, the collection is limited to 1,500 tweets per query, so it is possible in limited cases that tweets were missed during high volume activity. This is a limitation that was placed by Twitter’s application program interface (API); however, it is unlikely given the nature of the discourse that this limit was reached outside of the first day. Given the unique nature of the terms used (Table 1) to create the dataset, it is unlikely that any of the collection discourse relates to topics other than the actual Movember campaign.

The Twitter timelines were also collected for the seven official Movember Twitter accounts to understand how official accounts were contributing to the discourse, which allowed for research into what was being said about these accounts and what these accounts were sharing.

In total, 1,474,539 unique tweets were collected. This number represents any time that one of the terms in Table 1 was included in a public tweet during the collection period. After collection, the dataset was analyzed using a set of scripts that examine the syntactical feature content of the dataset (Mascaro, Black, & Goggins, 2012; Mascaro & Goggins, 2012).

Table 2 displays the syntactical feature conceptualization for clarity. This table is provided as a way to firmly identify the references to certain types of activity. Although other conceptualizations exist, those in Table 2 represent the conceptualizations used for this analysis (Mascaro & Goggins, 2015). The most significant conceptualization for this

Table 1. Queries.

#Movember	@movember
Movember	@movemberCA
#mobro	@movemberUK
Mobro	@movemberAUS
#mosista	@movemberIreland
Mosista	@movemberSA
	@movemberNZ

Table 2. Syntactical Features.

Syntactical feature	Syntax as applied to this study	Purpose
At-reply	@[username] at first position of tweet text	To directly address another user in a public manner
At-mention	@[username] at any point in tweet text	To highlight a tweet to another user or to talk about someone. Mentioning them will inform them of the tweet
Retweet	RT @[username] "tweet text"	To further disseminate another user's tweet
URLs	http://t.co/[6-10 characters]	To include external information in a tweet. Note that Twitter uses a URL shortener
Hashtags	#[alphanumeric text]	To tag a message with a conversational marker or to add a tweet to an existing stream of discourse independent of a follower/followee network

Table 3. Syntactical Feature Overview.

Total tweets	Link (%)	Hashtag (%)	At-mention (%)
1,879,994	49.80	60.82	56.87
At-reply (%)	Retweet (%)	English (%)	
13.70	31.55	92.58	
Geo (%)			
2.32			

analysis relates to the at-reply. Building on previous research, our analysis operationalizes conversation as the presence of an @[username] or .@[username] in the first part of the tweet² (Bakshy, Hofman, Mason, & Watts, 2011; Honeycutt & Herring, 2009; Yardi & boyd, 2010; Zelenkauskaitė & Herring, 2008).

The construction of our dataset represents a slight difference from previous work on Twitter that has focused on only a set of hashtags or at-mentions. The inclusion of keywords in the collection queries allows for an analysis of the syntactical features used to discuss Movember on Twitter and allows for a more diverse set of research questions.

Findings

We make three contributions to the literature. First, the distribution of syntactical features and the temporal frequency of tweets represent unique activity that illustrates Movember as a social movement. Second, the URLs that are shared represent a variety of URLs, but are mostly focused on user-generated content and other information hosted on the Movember website. There is little information shared about Movember as a cause or men's health more broadly. Third, there is limited actual conversation occurring on Twitter and the individuals who used the at-reply feature to initiate conversations rarely received a response.

Syntactical Feature Presence

Table 3 identifies an overview of the dataset from the perspective of syntactical feature usage and other descriptive statistics. In total, 1,474,539 unique tweets were collected,

and almost half of these tweets contained a URL. We also see that approximately 60% of tweets contained a hashtag or an at-mention with many containing both. In all, 13.7% of these tweets had an at-mention at the first position in the tweet identifying them as conversational.

Nearly one-third of the tweets were a retweet. Nearly 2.5% of all of the tweets contained geographic data. This represents a significant increase from other datasets, which suggests the importance of location in this dataset (Mascaro, McDonald, Black, & Goggins, 2013). We also see a significantly high number of unique contributors, hashtags, at-mentions, and URLs. In total, about 78% of the tweets were unique. This is a result of individuals retweeting tweets more than once and also possibly using only a hashtag or other syntactical feature as the full text of the tweet.

Frequency of Activity

Figure 1 illustrates a graphical overview of the number of tweets per day for the examined time period. The time zone is that of Coordinated Universal Time (UTC) as this collection was global rather than focused on one time zone. The number of tweets drastically spiked on 1 November and 30 November. Analysis of the content of the tweets in the first part of the month indicates excitement for the coming month, an informative declaration of the start of Movember, and an announcement that certain individuals were participating with the solicitation of donations for individual Movember campaigns.

The spike at the end of the month is consistent with individuals checking in with what they raised, announcing the end of Movember, and promoting the end of month Gala Partés, along with sharing photos and stories of their Movember

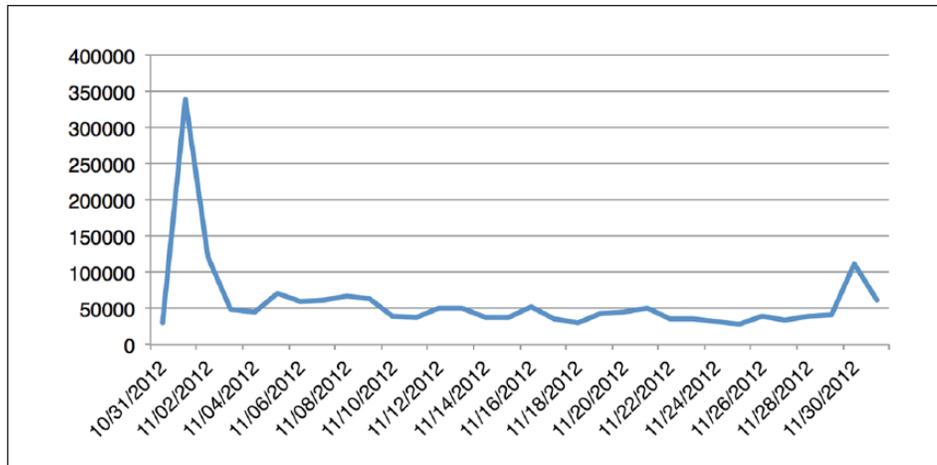


Figure 1. Number of tweets.

mustaches. The steady amount of tweets during the 4 weeks of the month illustrates a typical work week cycle where individuals tweeted more during the week than on the weekend.

Analysis of Conversational Tweets

Aside from the money raised by participants, Movember places primary importance on the *conversations* about men's health: "it's conversation that is central to everything Movember does" (Movember, 2012, p. 20). The presence of the @ sign in a tweet in the first position indicates that the tweet is directed toward another individual. Given the affordances of Twitter, people have the opportunity to send an undirected tweet, which is not directed to any specific account and serves as a general status update. Alternatively, a person can send a directed tweet to a specific Twitter account. Network analysis of the Twitter conversations (tweets that use at-replies) provides an understanding of the actors that play an important role in the movement, considering the stated importance of both conversation and social media in the Movember campaign. Honeycutt and Herring (2009) state, "In this noisy environment, use of the @ sign is a useful strategy for relating one tweet to another and, indeed, for making coherent exchanges possible" (p. 3). The presence of the @ sign in a tweet indicates that the tweet is part of a conversation, whereby an exchange can be identified between at least two people.

Rather than analyze the mere broadcasting of messages, we analyze individuals who were responsible for starting the most conversations (individuals with high out-degree) and individuals who had the most conversations directed toward them (individuals with high in-degree). The top 20 high out-degree and in-degree accounts are analyzed (see Tables 4 and 5).

High In-Degree Participants

High in-degree participants were predominantly celebrity figures. In all, 13 of the 20 high in-degree tweeters are personal

accounts, and the other 7 are company accounts. This suggests that the conversational activity is directed toward individuals that are famous in some way.

All of the personal accounts were of male celebrities and are Twitter-verified.³ The 13 celebrities include soccer players, actors, TV hosts, singers, and comedians, among others. People are tweeting to celebrity figures who would traditionally be considered unreachable, and the audience is projecting a conversation with these high-status people (Sanderson & Cheong, 2010).⁴ The accounts had a mean number of followers of 966,650. Although the high in-degree tweeters received a lot of attention from the Twitter community at large, they were not active in tweeting about Movember nor responding to tweets directed at them.

High Out-Degree Participants

The high out-degree tweeters are those who tweeted prolifically about Movember while directing their tweets to another person. In total, 18 of the 20 high out-degree tweeters were personal accounts with 13 being male and 5 female and the other 2 accounts were company accounts; none of the accounts were Twitter-verified, and they had a mean following of 903 accounts.

A logical extension would suggest that high out-degree tweeters are those that are more interested, committed, or engaged in the topic. Despite the appearance of initiating a conversation with a directed tweet, many of the high out-degree tweeters did not engage in conversation that occurred over time with others. Rather they merely repeated the same tweet while targeting the tweet to another person, for example, "@[user name redacted] Check out my effort to change the face of mens [sic] health URL #Movember." This direction is an attempt to highlight a tweet to another individual using the conversational mechanism. An individual can copy and paste the same tweet while directing/targeting/addressing the tweet to another person.

Table 4. High Out-Degree.

Frequency	Gender	Following	Followers
1,197	M	374	40
374	M	N/A	N/A
338	–	1,560	497
336	–	1,260	5,321
299	M	620	374
246	F	3,072	3,050
241	M	469	90
199	M	1,505	14
191	M	N/A	N/A
183	M	299	140
178	M	554	1,445
177	M	1,197	779
159	F	360	70
155	M	727	197
147	F	1,872	470
143	M	929	347
141	F	2,081	1,912
141	M	375	77
140	M	223	47
140	F	1,398	1,398

M: male; F: female.

The Twitter usernames for the high out-degree tweeters were removed to protect individuals' privacy. Usernames for the high in-degree tweeters are maintained because they are public figures.

Table 5. High In-Degree.

Username	Frequency	Gender	Following	Followers
MovemberUK	4,638	–	673	35,394
themichaelowen	3,972	M	202	1,822,649
Movember	2,998	–	2,611	41,314
Mario_Falcone	1,021	M	249	669,423
MovemberCA	937	–	1,044	12,706
JayOnrait	666	M	1,112	210,535
stephenfry	617	M	51,744	5,413,294
robbiewilliams	534	M	34	1,660,337
MovemberAUS	486	M	1,523	6,715
achrisevans	481	M	112	1,089,881
RainingSparkle	439	–	522	2,586
rickygervais	415	M	169	4,024,179
MovemberIreland	411	–	193	2,527
DanMEATSIX	373	M	393	102,291
WaddleandSilvy	327	M	478	46,168
GaryLineker	323	M	243	1,381,364
AdamRichman	302	M	4,131	418,578
JayTheWanted	295	M	739	723,263
NHL	270	–	7,343	1,628,489
CodySimpson	260	M	159,450	4,974,945

M: male; F: female.

In this way, many participants were using Twitter as a broadcast platform: the message of the tweet remained the

same, but the tweet was targeted to individual people through the use of the at-reply. Analyzing the top 20 high out-degree tweeters, in comparison with the high in-degree tweeters, uncovers a distinctive reality. The 20 high out-degree tweeters have a mean of 903 followers, versus the 20 high in-degree tweeters who have approximately 966,650 followers. Those who are tweeting about Movember have a much smaller following than those who are receiving tweets about Movember, resulting in many messages being sent to small pools of people. This illustrates uniquely different account types. Those initiating conversations are private citizens, whereas those receiving conversational activity are those who are of a celebrity status.

Based on the Twitter data, there is limited true conversation that is taking place on Twitter about the Movember movement. Accordingly, while the tweets are conversational in form (having the @ sign at the start of the tweet), they are largely not conversational in function (an interchange between two or more people). The data evidence that there is a group of tweeters (high out-degree) who are engaged in broadcasting messages, and there is another group of tweeters (high in-degree) who are being spoken to. Consequently, there is a significant disconnect in the Movember campaign between participants who are active tweeters and people who are receiving tweets.

Gender in High Out-Degree and High In-Degree Tweeters

Analyzing the high in-degree and high out-degree tweeters further illuminates the reality of a gender disparity. As Movember is geared toward men's health, it is perhaps unsurprising that men dominate the online space. Despite women's offline participation being restricted by the social and physical constraints of having limited ability to grow a mustache, women are actively participating in Movember, which is evidenced by the fact that 5 of the top 20 high out-degree tweeters are women. Social media may serve as an equalizing space where women can participate in Movember without having to grow a mustache in the offline world. However, this is a mere affordance of Twitter and other social tools; how people choose to adopt the tools is up to the individual.

Interestingly, all of the high in-degree tweeters are male, which points to the gendered nature of the campaign (Jacobson, 2009). Women, however, are not merely passive supporters of men's Movember journey; some women are developing creative Movember campaigns. Analysis of the tweets sent by one of the female top 20 high out-degree tweeters indicates that she embraced social media by tweeting and blogging about her month-long campaign: she wore a mustache all day for the entire 30 days of Movember and also teamed up with other women involved in social media to develop a Mo Sista calendar with proceeds going toward Movember. As previously mentioned, many of the high out-degree tweeters are not

engaging in active discussion; this female tweeter was the only personal high out-degree Twitter account that was actively engaging in conversation with other people online. Identification is made possible by a quantitative analysis of the number of tweets this person sent and the number of tweets that were directed to this person. This Twitter account shows an idealized personal Twitter campaign that involves active conversations that blend online and offline participation.

URL Analysis

We focus this analysis on the URLs found in the conversational behavior to allow for a deeper comprehension on the sources of information that are shared in the conversational context (see Table 6). This was achieved by examining the website of the information that was being shared (herein referred to as base URLs).⁵ Twitter uses shortened URLs for most of the URLs that are shared in the tweets. Since many URLs in Twitter are also shared as shortened URLs from a URL shortening service such as bit.ly, the process must be done multiple times. In order to do this decoding, a script was written to identify the URLs that were shortened. Table 6 represents the most frequently shared URLs. The inclusion of t.co in the list indicates a URL shortened by Twitter where the original website is no longer available. These URLs are often referred to as dead URLs (SalahEldeen & Nelson, 2012).

The top 16 base URLs represent sites that chiefly rely on user-generated content and make up 86.4% of total URLs. Participants are active in content creation, including photographs and updates. This is represented by the high presence of twitter.com and other country-specific Movember websites in the URL data. This type of sharing illustrates self-reflexive information sharing—people share information about themselves from Twitter and from sites they control.

Table 6. URL Frequency.

	Base URL	Frequency
1	http://twitter.com/	30,771
2	http://uk.movember.com/	14,074
3	http://us.movember.com/	4,118
4	http://ca.movember.com/	2,778
5	http://www.youtube.com/	1,615
6	http://instagram.com/	1,578
7	http://mobro.co/	1,369
8	http://au.movember.com/	1,076
9	http://t.co/	984
10	http://twitter.yfrog.com/	627
11	http://twitpic.com/	600
12	http://www.facebook.com/	578
13	http://www.movember.com/	546
14	http://ie.movember.com/	454
15	http://www.justgiving.com/	426
16	http://pics.lockerz.com/	313
17	http://prostatecanceruk.org/	287

There is less emphasis on sharing content related to official sources of men's health; as a result, the conversations revolve around Movember as a cause, rather than men's health which is the stated purpose of the campaign.

Discussion

Rather than true conversation where people engage in a dialogue, many of these users are engaged in self-promotion in an attempt to publicize and direct their followers to their Movember webpage to raise money. The activity of most of the high out-degree tweeters is more aligned with mass mailing or perhaps even spamming, instead of conversation. Utilizing the same tweet but addressing the messaging to a different person serves as an act of pseudo-individualism. These tweeters were engaged in self-promotion by branding themselves as being involved in Movember as “cool” and socially conscious.

By using the at-reply at the beginning of the tweet, the tweet is directed, but it is also visible to all other people. The finding that different sets of people tweeted (out-degree) and are being tweeted at (in-degree) points toward Twitter largely being used as a broadcast tool, rather than a conversational tool in this context. The concept of mass individualized mail is certainly not new to social media. A directed tweet is like an addressed piece of mail, in comparison with an unaddressed piece of mail like a bulk flyer. Although the mail is directed, that is not an indication that the mail is not spam or part of a bulk messaging system. Unlike postal mail, the barriers of access and participation are low as an individual need only know a person's Twitter handle in order to direct a tweet to any given person, even those of celebrity status. Accordingly, celebrities are ostensibly more “reachable” or accessible because there is a very low investment of resources—including time, money, and energy—in order to directly tweet to a person. Wu, Hofman, Mason, and Watts (2011) similarly found elite users, such as celebrities, make up a substantial portion of attention on Twitter with the top 20,000 elite users making up almost 50% of attention. However, although Twitter affords celebrities and high-status people to be more accessible to the general public, as the Twitter dataset here indicates, the vast majority of the tweets are not responded to.

Based on an analysis of the URLs shared within tweets, we identified that participants are discussing Movember, rather than specifically discussing men's health or prostate cancer. The finding that tweets peaked at the beginning and end of the campaign indicates that many people are using Twitter to make a statement about Movember—starting or ending—but not engaged in conversations about health throughout the month, which is the stated purpose of Movember.

Movember has successfully developed itself as a branded social movement. Non-profit organizations are brands and are increasingly attempting to differentiate

themselves from other causes (Griffiths, 2005). While branded engagement is not mutually exclusive to an effective health campaign, it begs the question, "Does a visual signifier enhance or detract from the efficacy of a health communication campaign?" In the case of Movember, is the purpose of Movember lost in the mustache itself? The attention-grabbing signifier of the mustache has achieved success in capturing global attention, and as the analysis has shown, participants are active in promoting themselves online on Twitter. Supported by the URL analysis that indicates that participants are largely tweeting user-generated content, official health information is not prominent in the Twitter conversations. As a result, "... creating a brand out of a social problem may in fact stifle the political and critical debates on the issue, as King (2006) demonstrates with the example of the breast cancer movement" (Tatarchevskiy, 2011, p. 302). Research by Movember suggests, "... Movember is speaking to an engaged group and as a result has a significant impact on health related behaviours of its participants" (Movember 2012, p. 20). Furthermore, the finding that women are more likely to initiate conversation (out-degree) rather than be tweeted at exemplifies how social media can be an equalizing space for active participation in the campaign. The Twitter data justify the claim that participants are indeed an engaged group; however, it is also important to analyze the type of participant engagement. The Twitter data indicate that participants are more engaged with Movember as a branded movement, than engaged in health promotion.

The finding that very few tweets are truly conversational in that they contain an at-reply and have multiple iterations does not diminish the reality that men and women around the world have raised millions of dollars. Participants have been very active and successful at raising money for a worthy cause, but donations are merely one part of the equation. Movember has also put prostate cancer "on the map" for many men and consequently has raised public awareness about men's health issues. If the first step of a health campaign is awareness and fundraising, then the next step should focus on providing information and shifting the discourse to prostate cancer and men's health at the center, rather than mustaches at the center. The mustache is advocated as a billboard for men's health, and subsequently, the billboard needs to advocate louder for men's health and the reduction of stigma attached to men's health.

Conclusion

This research contributes to the scholarly discourse surrounding Twitter both methodologically and theoretically. The analysis illustrates how social media can be utilized to trace the conversations of a digitally mediated social movement.

This research project has specific findings about Movember, as well as findings that have broader implications for how

researchers can study social movements and non-profit organizations online. Non-profit organizations have begun to utilize social media as a tool for promotion, branding, and outreach, and there will undoubtedly be great growth and innovation in this area.

As evidenced in this case study, online communication campaigns need to focus on generating the right type of conversations online that are aligned with their strategic goals, such as health awareness. Rather than evaluating the success of online communication merely by the number of tweets or messages, campaigns need to evaluate whether people are engaging in conversations and what people are talking about online.

Tweets spiked at the start and end of the event with most people only participating once. The number of tweets spiked significantly on 1 November and 30 November announcing excitement, participation, and solicitation of donations. By analyzing the lifecycle of Movember on Twitter, the analysis is able to move beyond a superficial understanding of the campaign.

Delving below the mere broadcast of messages as a self-promotion tool, we identified that user-generated content is the chief source of information that is shared. There is less emphasis on sharing content related to official sources of men's health; as a result, the conversations revolve around Movember as a cause, rather than men's health. To move the campaign to the next level of social impact, there should be further emphasis on promoting men's health. User-generated content lies at the heart of conversational tweets.

These data provide a base level of understanding in order to track the Movember campaign in the future, which can be used to develop a comparative or longitudinal report. Considering that Movember has raised money since 2004, the organization is still young and will evolve over time.

There is a very small, but growing scholarly interest in Movember. The research is aligned with Prasetyo et al.'s (2015) cross-country analysis of Movember that identified that tweets were about the social, rather than the health, aspect of Movember. Similarly, using a sample of Canadian tweets, Bravo and Hoffman-Goetz (2015) concluded that the goal of raising health awareness was not achieved. This research extends previous work by specifically analyzing Movember on Twitter to identify that while the tweets are conversational in form, they are largely not conversational in function, which points to Twitter being used as a broadcast tool.

Our findings also represent a contribution to the existing literature on Twitter. The construction of our dataset represents a slight difference from previous work on Twitter that has focused on a small subset of hashtags or at-mentions. In this work, we have broadened our collection criteria to allow for a more comprehensive approach to understanding the activity within the technology. The

combination of keywords, hashtags, and at-mentions allows for an analysis of the syntactical features used to discuss Movember on Twitter.

Using this rich dataset, we make three contributions to the literature. First, the distribution of syntactical features and the temporal frequency of tweets represent unique activity that identifies Movember as a social movement. Second, the URLs that are shared represent a variety of URLs, but are mostly focused on user-generated content and other information hosted on the Movember website. There is little information shared about Movember as a cause or men's health more broadly. Third, there is limited actual conversation occurring on Twitter and the individuals who used the at-reply feature to initiate conversations rarely received a response. Participants are actively engaged with the campaign online, but without serving the stated goal of the movement's organizational body—conversation.

This article has broader implications, which contributes to the methodology of studying online movements on social media. This article has placed importance on the online conversations between people who discuss Movember. The syntactical feature overview provides a comprehensive understanding of Twitter activity. The findings have implications for how Movember, or other organizations who organize a multiple-day event, may seek interventions and improvements for the campaign strategy. In addition to non-profit organizations, these findings may apply to other domains such as politics.

In order to assess the success of a campaign, this article has shown that it is insightful to move beyond merely analyzing the amount of money raised. Furthermore, merely tracking the number of mentions that an organization has provides a misguided and superficial understanding of the way people are engaging and discussing the campaign. The success of a campaign can be partly attributed to the online conversations. The success of a non-profit and a social movement is often about looking beyond the financial impact and more about the social impact. In order to assess the social impact, social media analytics can be used as a tool to assess the online conversations as an indicator of social impact.

Twitter has the technical capabilities of affording participants the ability to communicate and converse with all other people on Twitter, despite the geographical or social distance between people. Social media is celebrated for its ability to bring people together from around the world (Gruzd, Wellman, & Takhteyev, 2011) at a low cost as the barriers of access have been lowered. However, the findings raise questions about the gap between the affordances and actual use of Twitter as a tool to engage people in an online campaign.

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Notes

1. Changes to the application program interface (API) and access have rendered TwitterZombie obsolete given new authentication requirements for tools. For comparative tools that researchers can use to collect Twitter data, see <http://socialmedialab.ca/apps/social-media-toolkit/>
2. When a user inserts a period before @[username] at the start of a tweet, the tweet will be visible to all of their followers. Without the period, the tweet would only appear on the feeds of users who follow both the sender and receiver.
3. A Twitter-verified account means that Twitter has authenticated the identity of the account, which is commonly associated with a celebrity who may be victim to a parody or fraudulent account creation.
4. Fans at-reply a famous person to publicly display a connection and also in hopes of receiving a response (Marwick & boyd, 2011).
5. Since Twitter shortens all URLs, we have to go through an iterative process to decode them. After decoding the URLs to identify the original URL, we aggregate to identify the most popular URLs and then cut off the ending to identify the base (source) URL and then aggregate on those. This allows us to identify the most popular specific content and also allows us to further examine the information sources.

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