BOWDOIN COLLEGE

# Lack of Women in Leadership: The Belief, Perception, and Reality

Data-Driven Societies: Professor Gieseking and Professor Gaze

**Rita Chengying Liao**
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**Introduction**

Chief Operating Officer of Facebook Sheryl Sandberg brought it to our attention that too few women reach the top of their professions. A search for "lack of women in leadership" on Google yields abundant articles in major media outlets that support the claim:

*Women See Slow Progress in Leadership* (Wall Street Journal, Nov 14, 2013)

*Why are there so few women in leadership?* (PricewaterhouseCoopers)

*Lack of Women at Davos Reflects the Gender Gap in Global Leadership* (The Huffington Post, Jan 31, 2014)

There seems to be a media consensus in the U.S. on the lack of women in leadership. The underpinning belief is that there *should* be more female leaders. But "leadership" is a broad term; leadership of what and in what human experience? It is worth stepping back to consider these questions before accepting the claim that "there are not enough women leaders." The goal of this research is thus to paint an objective picture of women's representation in leadership and measure the gap between the social belief and social reality around gender and work.

Main questions that the paper addresses are: What is the current belief around gender and work? What is the current state of women's leadership at work? To that end, I draw upon data from Twitter, Social Explorer and the U.S. Bureau of Labor Statistics. Given that the media seems to highlight gender inequality at work, the paper assumes early on that there is indeed a lack of women in leadership. The fact that the media sees this as a serious issue suggests that society as a whole believes in gender equity at work.

Toward the end, the paper argues that a gap exists between the social belief and social reality around women in leadership. While there is a universal consensus that gender equity should exist in leadership, evidence shows a lack of women leaders in professional and

managerial roles. Nevertheless, interpretations of "leadership" may differ across occupations and socioeconomic groups. Reaching the top of the career ladder may not be the only measurement of "women leadership" as some women may enjoy a balance between life and work than just work.

## Literature Review

*Social Reality*

Over the past few decades, there has been a growing representation of highly educated women and a rapidly growing number of professional women in fields like law, accounting and medicine.[1] This opens the gate for changing attitude toward gender and work: "The clash between the changing demographics of the professional workforce and institutionalized views of gender disrupts organizational beliefs and routines, creating the impetus for change within professional service firms."[2] What does this mean for women's leadership?

Despite the growing number of professional and educated women, the top echelon across industries is far from achieving real gender equity. A senior editor of *Harvard Business School Working Knowledge* writes: "Nobody questions that there's whopping gender imbalance in today's boardrooms, despite ample evidence that it makes financial sense to put women on the board.[3]" As of 2012, 14% of S&P 1500[4] company board seats are held by women. An Ernst &

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[1] Ramarajan, Lakshmi , Kathleen McGinn , and Deborah Kolb. "An Outside-Inside Evolution in Gender and Professional Work." Harvard Business  School Working Ppaer 13-051 (2012). file:///C:/Users/awesometata/Downloads/SSRN-id2184439.pdf (accessed May 11, 2014). 2

[2] Ibid

[3] Nobel, Carmen . "Few Women on Boards: Is There a Fix?." — HBS Working Knowledge. http://hbswk.hbs.edu/item/7159.html (accessed May 11, 2014).

[4] The S&P 1500 is a stock market index of US stocks made by Standard & Poor's

Young LLP report concludes: "Companies are adding women to their boards — at a sluggish pace."[5]

*Social Belief*

What do women and men think of the current state of women in leadership? According to Professor of Business Administration at Harvard, Boris Groysbery, "lack of women in executive ranks" topped the list of reasons that men believe the percentage of women on boards has remained stagnant over the past decade.[6] It seems that men are blaming the lack of female leaders on the lack of qualified women to choose from. "The men's point of view was basically, look, this wouldn't be such a problem if we had qualified women to pick from," Groysberg says. On the contrary, the primary reason for the lack of women in leadership, according to women, is that "traditional networks tend to be male-oriented."[7] Women "reported that [they] have more than enough female leaders from whom to choose for our boards."[8] Research tends to agree with the women: on average, female board members actually had far more operational experience on their résumés than male board members.[9]

Other research also confirms the diverging perceptions of gender inequality at work. As early as 2005, a Gallup public opinions poll showed that men were more likely to believe that women had achieved equality of opportunity in the workforce.[10] 61% of men said so, and a majority of men had held that view since 2001. That same year, 45% of women said women had

[5] "Getting on board - Women join boards at higher rates, though progress comes slowly." Ernst & Young LLP (2012). http://www.ey.com/Publication/vwLUAssets/Getting_on_board/$FILE/Getting_on_board.pdf (accessed  May 11, 2014).
[6] Carmen . "Few Women on Boards: Is There a Fix?"
[7] Ibid
[8] Ibid
[9] Ibid
[10] M. Jones, Jeffrey . "Gender Differences in Views of Job Opportunity." Gallup. http://www.gallup.com/poll/17614/gender-differences-views- job-opportunity.aspx (accessed May 11, 2014).

equal job opportunities, which was the highest percentage with that view since Gallup first asked this question. In 2010, of those who believed in equal rights, many more men in the U.S. believed the country had made the right amount of changes for women, while many more women than men thought more action was required.[11]

**Methods & Analysis**

To study the belief around women in leadership, I collect tweets with hashtag #WomenLead (short for "women leadership") from January 28 to February 26, 2014 using ScraperWiki. There are 1214 unique tweets in total. I then graph the trend of the number of daily tweets with Excel to examine what events might cause an increase of tweets. With Gephi, I create a network analysis of how people tweeting about #WomenLead relate to each other.

To grab the reality of women in leadership, I use employment data from the U.S. Bureau of Labor Statistics. For this study, I measure "leadership" with two parameters:  the number of women in managerial positions and their salary. I use these two parameters because they are relatively quantifiable. Datasets I use include the percentage of top positions by gender, salary across industries, and salary gap between men and women across industries.

**Findings**

1. #WomenLead: an elite-driven discourse

The only spike of tweets occurred on Jan. 31 (Figure 1), which is attributed to a tweet from @sfpelosi and its reweets. @sfpelosi is the Twitter handle of Christine Pelosi, a Democrat active in grassroots movements. It turns out that Christine was tweeting about Michelle Obama's talk

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[11] Shannon, Victoria. "Equal Rights for Women? Survey Says: Yes, but . . .." The New York Times. http://www.nytimes.com/2010/07/01/world/01iht-poll.html?pagewanted=all&_r=0 (accessed May 11, 2014).

on women's political leadership on that same day, during which Mrs. Obama applauded Nancy Pelosi, Christine Pelosi's mother, for her accomplishments in the White House. The majority of other tweets in the sample consist of automatic tweets that hashtag #WomenLead for irrelevant content.
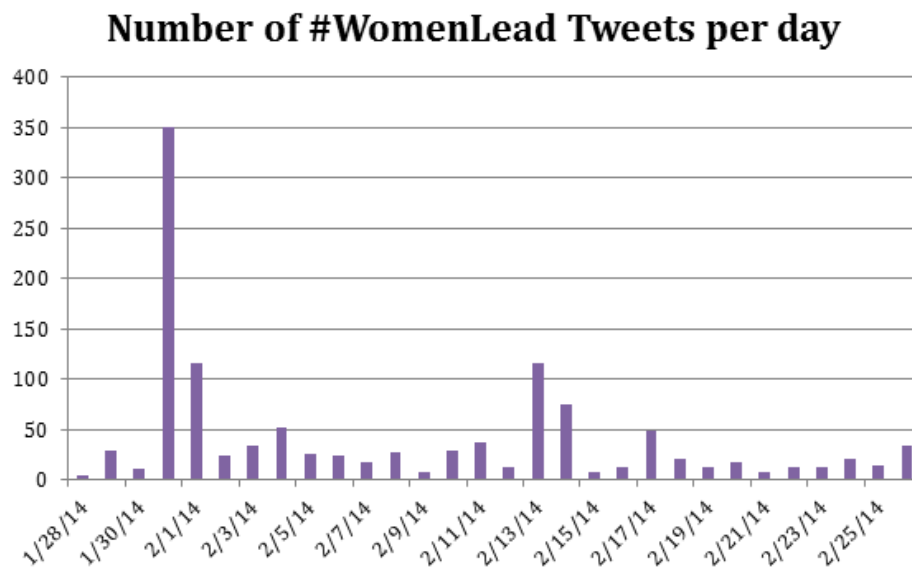


Figure 1: Number of #WomenLead Tweets per day

(Source: Twitter data collected using ScraperWiki)

Figure 2 is a network representation showing how the participants in the #WomenLead discourse relate to each other. Each node represents a Twitter account and is ordered by "degree." The bigger the node is, the more connections the node has connecting to itself, that is, the more times a user tweets about #WomenLead or is mentioned in a #WomenLead tweet. @sfpelosi is the biggest node, signifying its high connectedness. There are many low-density clusters, shown by the isolated groups floating in the network. They are mostly the automatic tweets that barely receive retweets.
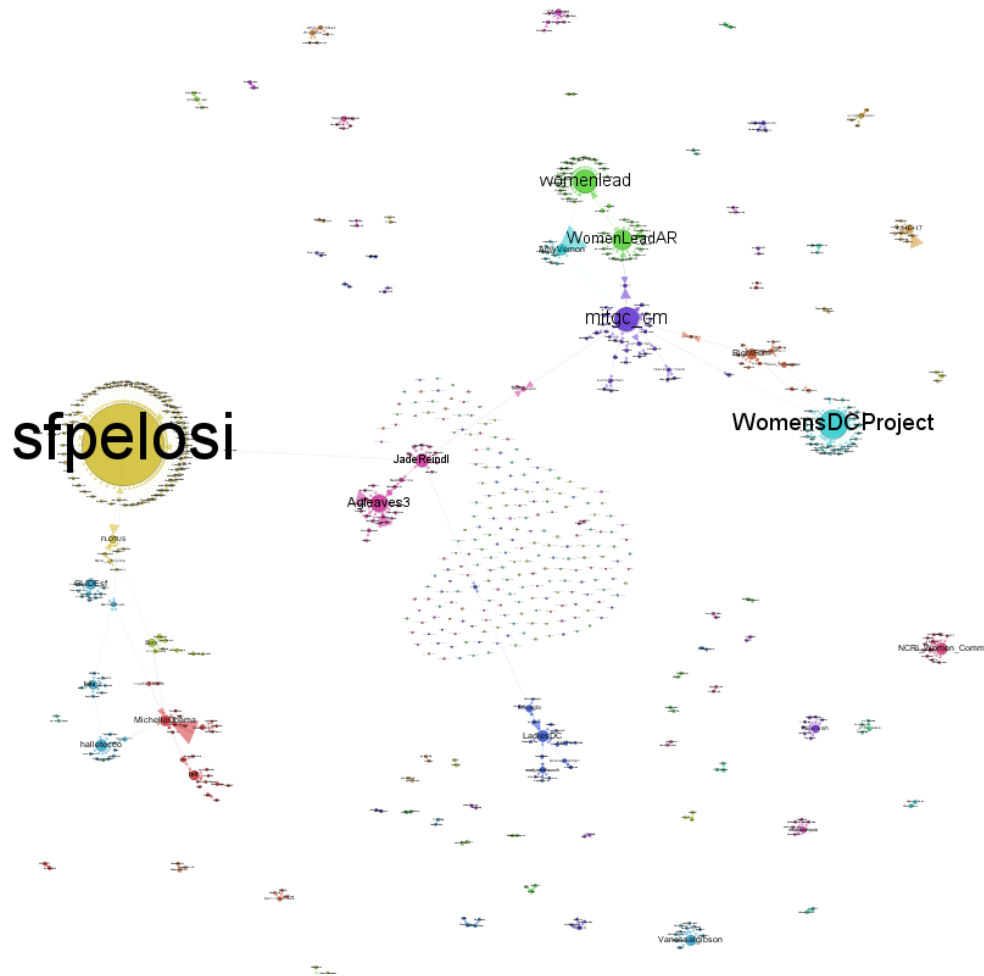
Figure 2: Network of #WomenLead discourse

(Source: data from ScraperWiki, created using Gephi)

There are twelve nodes that are smaller than @sfpelosi but bigger than the auto-tweeting accounts in the isolated groups, that is, they are more connected than the auto-tweeting accounts. Several of them are close to @sfpelosi (Figure 3).
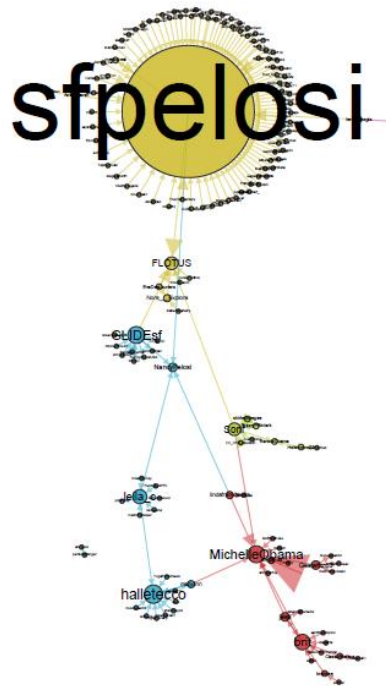
Figure 3: Zoomed-in section of the #WomenLead Network

(Source: data from ScraperWiki, created using Gephi)

It turns out that seven of these users are women with jobs in social services – politicians and public servants. Three are founders of their own companies. One is a partner at a venture capital. One is a senior account manager at an advertising company. The fact that the influencers in the network are eminent politicians and well-to-do business women suggests that the Twitter discourse on women's leadership may be mostly elite-driven.

2. Different levels of women's dominance across industries

On average, there are indeed fewer women than men in leadership (Figure 4). The gender gap in leadership roles is evident across the U.S., as shown in Figure 5 and 6. Darker color indicates a higher percentage of leadership roles by each gender.
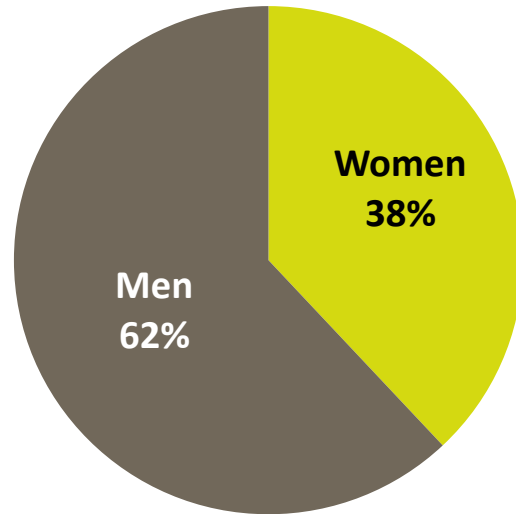
Figure 4: Total Management Occupations by Gender, 2012

(Source: The U.S. Bureau of Labor Statistics)



Figure 5: Male Employed Civilian Population 16 Years and Over: Management, business, and financial operations occupations. 2008-2012 (Source: Social Explorer)
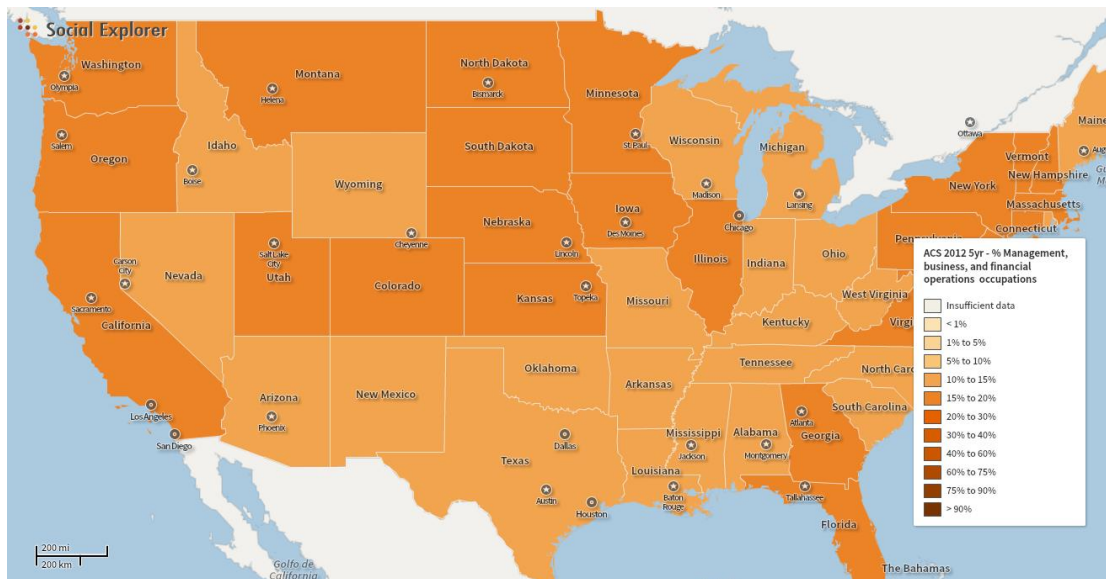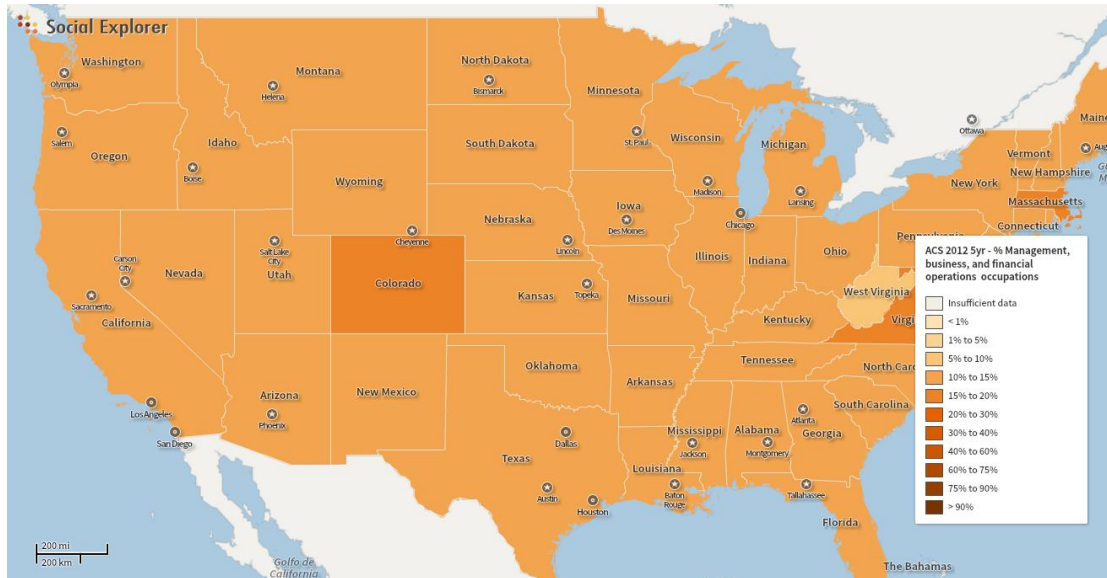
Figure 6: Female Employed Civilian Population 16 Years and Over: Management, business, and financial operations occupations. 2008-2012 (Source: Social Explorer)

Female leaders, however, outnumber male leaders in eight industries (Figure 7): human resources, medical and healthcare, advertising and promotions, social and community service, education, public relations and fundraising, finance and lodging. This just shows how easy it is to distort the reality by selecting specific segment of data. Data scientists are fully aware of the potential danger of data. Nathan Yau writes: "Data is an abstraction of real life..."[12] Edward Tufte has a similar observation: "…there are displays that reveal the truth and displays that do not."[13]

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[12] D Yau, Nathan. Visualize this: the FlowingData guide to design, visualization, and statistics. Indianapolis, Ind.: Wiley Pub., 2011.

[13] Tufte, Edward R. 2011. "Visual & Statistical Thinking: Displays of Evidence for Making Decisions." In Envisioning Information, 27–54. Cheshire, Conn.: Graphics Press. 45
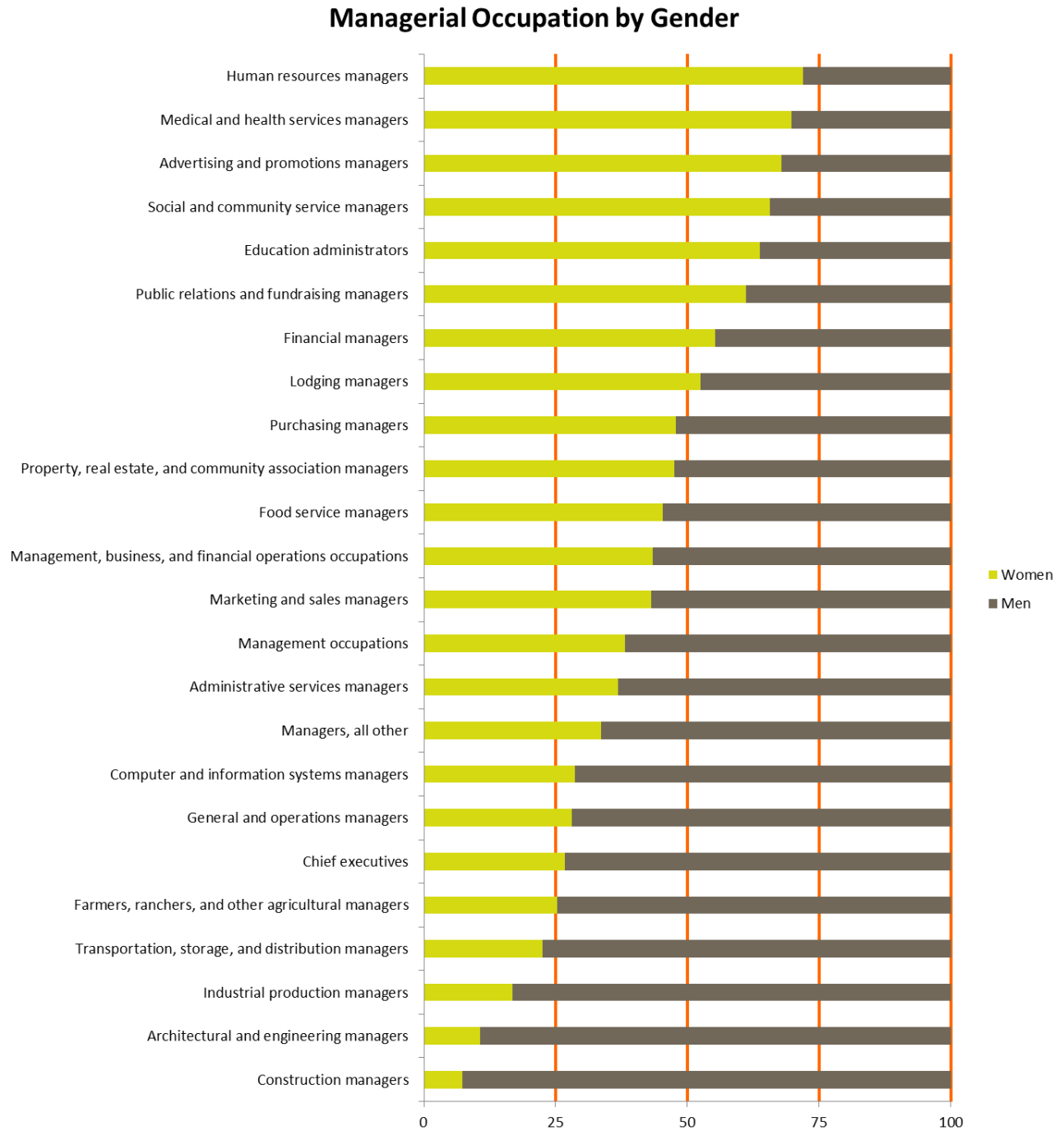
Figure 7: Managerial Occupations by Gender, 2012 (Source: U.S. Bureau of Labor Statistics)

3. Divergent perceptions of gender inequality

Research mentioned in the Literature Review shows that more men are more optimistic toward the situation of women in leadership. Women attribute this bias as a roadblock to bringing more women leaders onboard. Figure 8 is a statistical analysis showing the correlation between public perceptions of gender equality for jobs, and the number of female board members over a decade (1994-2006). Women's understanding of gender equality at work seems to align more with the social reality of women in leadership. Men become more optimistic at a faster pace, indicated by the blue line's steeper slope, whereas the number of board seats held by women increase at a much slower pace.
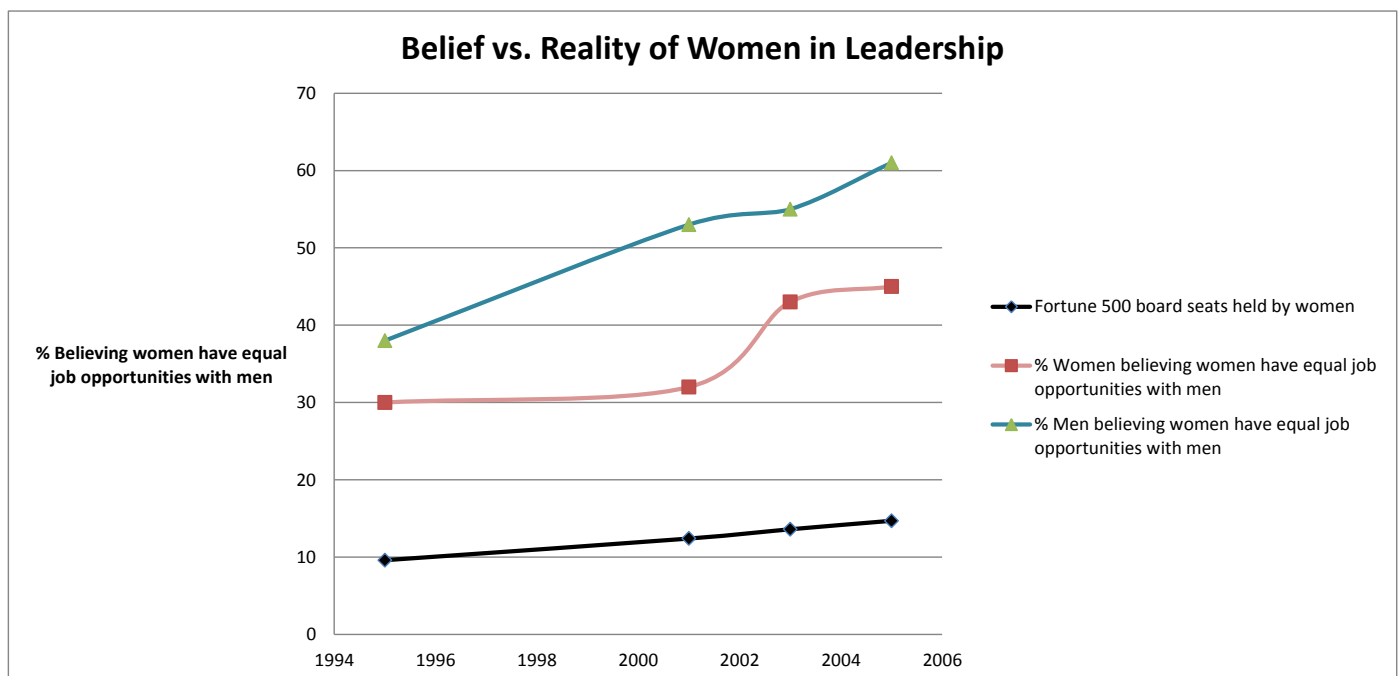


Figure 8: Social belief and social reality of women in leadership

(Source: Gallup, "Gender Differences in Views of Job Opportunity," 2005; "2013 Catalyst Census: Fortune 500 Women Board Directors," Catalyst, 2013)

**Discussion**

When speaking of "women in leadership," it is important to distinguish between the *social belief* and *social reality* thereof. The qualitative data in the Literature Review section shows convergent beliefs between the two genders that women and men *should* share equal leadership. Their beliefs diverge, however, in perceptions of the reality: many more women than men believe that women lag in leadership roles. My quantitative data tend to agree with women's perception of the reality. 62% of all managerial roles are male. 16 out of 24 industries have more male leaders than female leaders. Meanwhile, there are sufficient qualified female candidates for leadership roles, as indicated in Literature Review.

The growing presence of women in the professional ranks and an evolving understanding of the relationship between gender and professional work call the traditional model of male-dominated leadership networks into question. On the other hand, the current state of women's leadership seems to stay stagnant. Groysberg and Figure 8 suggest men's false impression on gender inequality as a cause, while others blame the lack of guidance for organizations attempting to adapt to changing gender roles.[14]

My research has several limitations. Twitter data is far from a perfect representation of public opinions in the U.S. The profile of Twitter users is telling[15]: as of November 2013, 45% of all Twitter users are at ages of 18-29. 40% have a bachelor degree or more. This suggests that Twitter data may have selection bias and may explain why the #WomenLead discourse is elite-driven. The problem of demographic concentration is that like-minded people reinforce each

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[14]Lakshmi, McGinn and Kolb. "An Outside-Inside Evolution in Gender and Professional Work." 7

[15] DUGGAN, MAEVE , and AARON SMITH. "Demographics of key social networking platforms." Pew Research Centers Internet American Life Project RSS. http://www.pewinternet.org/2013/12/30/demographics-of-key-social-networking-platforms/ (accessed May 11, 2014).

other's viewpoints without encountering the alternatives. This phenomenon is what Eli Pariser calls the "filter bubble."[16] Furthermore, only 16% of US adults are on Twitter and half of them use Twitter to get news. This means many of them are passing along pieces of information than asserting their personal views. Indeed, the Twitter users seem to be simply broadcasting out Michelle Obama's compliment for Nancy Pelosi rather than discussing their personal experience of women's leadership. In other words, the sample tweets are *not* a representation of the type of the voluntary and active publication of people's information on social media, the type that Alice Marwick describes as "the personal is published."[17]

On the other hand, the elite-driven discourse may in fact be an accurate depiction of the reality. One of the major criticisms of Sandberg is that she fails to represent all women. "As one of the richest and most powerful women in America, and one with a supportive husband, she has a few resources that most women lack — whether it's household help or another parent who can step in when she needs to miss dinner with the kids."[18] Thus, my research topic, "women in leadership," may be skewed in the first place because its underlying assumption is that top career positions and wealth are incdications of leadership. There are surely other aspects of life to which women aspire such as marriage, personal interests and childbearing.

The research has shown how easily people can deploy data to distort the reality. Women in business can cite the overall gender disparity in managerial occupations (Figure 4), whereas men can point to the female dominance in human resources (Figure 5). Either way, advocates

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[16] Pariser, Eli. The filter bubble: what the Internet is hiding from you. New York: Penguin Press, 2011.

[17] Marwick, Alice Emily. "A Cultural History of Web 2.0." In Status update: celebrity, publicity, and branding in the Social, media age. New Haven & London: Yale University Press, 2013. 35.

[18] Lombrozo, Tania. "Should All Women Heed Author's Advice To 'Lean In'?." NPR. http://www.npr.org/blogs/13.7/2013/03/31/175862363/should-all-women-heed-authors-advice-to-lean-in (accessed May 11, 2014).

can leverage data to pressure for policy change. How we handle data thus becomes not just a technical problem but a political and ethical one. As dana boyd and Kate Crawford rightly point out: "… it is necessary to ask critical questions about what all this data means, who gets access to what data, how data analysis is deployed, and to what ends."[19]

**Conclusion**

The paper confirms the hypothesis that society believes in equal career opportunities for women and men, and that women still lag in leadership roles. One major barrier to women's rise seems to be men's misconception of the current status of women in leadership – they tend to believe that women are receiving their fair share. Bringing more women to leadership roles, however, is a complex issue. There are societal and organizational obstacles to a woman's rise to leadership, and individual and lifestyle factors come into play as women make their career decisions. People's perception of "leadership" may differ across ethic, age, and socioeconomic groups. One needs to specify the context when speaking of "women's leadership" as there is no single belief of and solution to the problem.

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[19] boyd, danah, and Kate Crawford. 2012. "Critical Questions for Big Data." Information, Communication & Society 15 (5): 670. doi:10.1080/1369118X.2012.678878.

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