

# **Social Media Influence on Confirmation Bias**

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*Abstract:*

*Social media influences users' attitudes and opinions. Most often, information one shares on social media reinforces his or her own previously held beliefs, instead of providing a way to listen to other opinions. The following summarizes research done on the emergence of social media as a vehicle for disseminating news and poses the question of how college students receive their news. This study uses a content analysis to find what kind of news College of Charleston students see on their Facebook newsfeeds. Are College of Charleston students exposed to news on their Facebook newsfeeds that reinforce their beliefs?*

**Introduction:**

As digital media grows, social media has become a hub for individuals to spout opinions and share biased articles. People are turning away from mass media and toward social media as a way of getting news. The rapid growth of social media amongst all demographics influences the political sphere in America more than ever. An individual's social media channels often show opinionated or biased articles rather than informing them on both sides of an issue and influencing them to vote one-way or the other. Social media tends to be a vehicle for reinforcing an individual's voice rather than an individual contributing to a collective voice. The literature poses an important research question: Are College of Charleston students exposed to news on their Facebook newsfeeds that reinforce their beliefs?

## **Literature Review:**

### **The Theory of Motivated Reasoning: Confirmation Bias and Selective Exposure**

The general theory that begs the question of why humans seek out and reason in a way that they already believe is the theory of motivated reasoning. Long before questions about biased and fake news online were considered, Ziva Kunda (1990) established this influential theory, finding that humans arrive at the conclusion that they desire. It is human's natural drive to reason in a way that reflects their beliefs and motives (Kunda 1990). Motivated reasoning is a lot of things: finding things that confirm one's opinion, avoiding things that conflict with one's views, and agreeing with arguments that confirm one's beliefs. It can be applied to traditional media, analyzing a politician, perceiving a sports team or accepting or denying one's illness. Motivated reasoning results in bias, rather than objective conclusions (Kunda 1990). Motivated reasoning is ubiquitous and can be applied across many disciplines.

One part of motivated reasoning is confirmation bias. People are motivated to defend their beliefs when they are given inconsistent or opposing information, and they are more likely to seek out information that confirms their opinions (Strickland & Taber & Lodge 2006). This confirmation bias leads to polarization of opinion on policies such as health care (Taber and Lodge 2006). Furthermore, people are much more likely to believe stories that favor their preferred candidate, especially if they have ideologically segregated social media networks (Allcott & Gentzkow 2017).

Howgego (2015) argues that humans only believe what they already think. He used the BP oil spill to explain confirmation bias, the fact that most of us have trouble believing evidence that

contradicts our preconceptions. Rig staff tested the concrete seal on a well before the oil rig explosion. The results indicated that the seal was not secure and removing the column might result in a catastrophic blowout. These signs were ignored because of confirmation bias. Disaster analyst Andrew Hopkins of the Australian National University in Canberra says the workers viewed the test “as a means of confirming that the well was sealed, not finding out whether it was or not.” The researchers believed what they wanted to believe. This translates into politics on social media today as individuals read, post, and share articles that confirm their beliefs.

One way of engaging in confirmation bias is selective exposure, an individual’s tendency to favor information which reinforces her pre-existing views while avoiding contradictory information. As Americans turn away from mass media and toward social media to get news, scholars find that the more choice individuals have when seeking political news, the more likely they are to exclude opinions with which they disagree (Mutz & Martin, 2001). Thus, users read what reinforces their beliefs and ignore what does not.

Bakshy, Solomo and Adamic (2015) examined how 10.1 million U.S. Facebook users interact with socially shared news. They found that friends shared significantly less news from sources with an opposing ideology. People saw 15% less content that was the opposite of their view in newsfeeds due to algorithmic ranking and clicked through to 70% less of this content.

Eveland and Shah (2003) explored interpersonal factors, such as the ideological similarity or dissimilarity, of personal communication networks. The method used was a survey collected in 1999 and 2000 from a single panel of respondents. A sample was then drawn from the 500,000 people who agreed to participate in mail panel. The central dependent variable in this investigation—respondent self-report of perceived media bias—was measured with responses on a scale from 1 (“definitely disagree”) to 6 (“definitely agree”) to the following item: “Most news

media are biased against my views.” Results of the national survey show that perceptions of media bias were positively related to conversations with ideologically, like-minded individuals.

Selective exposure theory illuminates the implications of social media being an individual’s primary news source. Using de-identified data, Bakshy, Solomo and Adamic (2015) examined how 10.1 million U.S. Facebook users interact with socially shared news. They found that friends shared significantly less news from sources with an opposing ideology. People saw 15% less content that was the opposite of their view in news feeds due to algorithmic ranking and clicked through to 70% less of this content. The study concluded that selective exposure appears to drive attention when it comes to political news on social media (Bakshy & Solomo & Adamic 2015).

Researchers aiming to find how the Internet has affected U.S. political news found that consumers of generally left-of-center (or right-of-center) cable news sources who combine their cable news viewing with online sources are more liberal (or conservative) than those who do not (Nie, Miller, Golde, Butler, & Winneg, 2010).

### **The Evolution of Social Media’s Influence on Personal Attitudes and Opinions:**

The rise of social media has permeated the political sphere in the past decade. Nearly every demographic participates on social media: Internet users under 50 are likely to use a social networking site of any kind, and those aged 18-29 are the most likely of any demographic use it (83%). Women are more likely than men to be on social media, and those living in urban places are more likely than rural internet users to use social networking (Duggan, Jenner 2012).

While millennials and older individuals are criticized for over-using social media, Chou, Hunt, Beckjord, Moser, and Hesse (2009) conclude that growth of social media is not uniformly distributed across age groups. This means that some people do use it more than others. This finding suggests that the new technologies, represented by social media, may be changing the communication pattern throughout the United States. Everyone, not just certain demographics, make up the social media landscape today.

Social media, with Facebook in particular, are a main news referring source. Facebook is one of the top drivers of traffic at five of the top websites, and “share” tools alongside most news stories are among the most clicked on links, and news consumers of the top news websites are the same age as Internet users overall (Olmstead, Mitchell, Rosenstiel 2011). This differs from traditional media news, which tends to be used more by an older demographic. With roughly 500 million users worldwide, Facebook’s audience is vastly larger than any single news organization. Facebook ranked as the second or third most popular driver to the content of five of the news websites studied by Pew. The top driver was Huffingtonpost.com, which derived 8% of its traffic from links to its content posted on Facebook. The New York Times was also a driver with 6% of its traffic coming from Facebook (Olmstead, Mitchell, Rosenstiel 2011).

Prior to social media, news was a homogenous system controlled by three major networks: ABC, NBC, and CBS. As media grew and social media emerged, a proliferation of homogenous consumer groups grew as well. News has turned into different platforms serving different types of readers. Cheaper production costs for online media make it easier than ever to target a small but loyal reader base. Because of this, Internet news providers, who face lower costs than cable networks, saturate the market for biased political news that is then shared on social media. Nie, Miller, Golde, Butler, & Winneg (2010) outline a framework for connecting

how the reduced costs of producing and distributing news, combined with consumers' tendency to selectively expose themselves to media with which they agree, have changed the U.S. political news market by giving consumers more control over the way they receive news (Nie, Miller, Golde, Butler, & Winneg, 2010). The implications of this are far and reaching as younger people use social media as their primary way of getting news. If individuals are exposed to only likeminded information sources shared by friends, it is likely that the polarization will only strengthen.

Furthermore, Gentzkow and Shapiro (2006) suggest that a Bayesian consumer who is uncertain about the quality of an information source will infer that the source is of higher quality when its reports conform to the consumer's prior expectations. Gentzkow and Shapiro (2006) use this fact to build a model of media bias. By examining news stories centering on controversial issues, the authors found that only "honest reporting" resulted in an equilibrium. Readers who read objective, accurate news stories all agreed on the accuracy of the story whereas opinionated, biased articles were perceived differently, those who agreed with them believed they were accurate and those who did not agree did not. While individuals are already inclined to share objective articles that reinforce his or her beliefs, the previous studies conclude that he or she is even more willing to share a biased, negative piece.

Social media channels contribute to the dissemination of biased, opinionated thoughts that reinforce that social media influences attitudes and beliefs insofar as those ideas are already believed by the user (Park 2015). Facebook news feeds show stories shared or liked by the user's friends, which inevitably leads to people only finding information which validates their own points of view or prior knowledge. Park (2015) uses Reddit to portray how opinions are so important for the success of posts today. Any opinion arguing with the ideas presented are



“down-voted.” He concludes that social media channels perpetuate bias by making it more difficult for people to share their opinions on controversial issues.

While the Internet does allow users to easily share biased pieces on social media, the Internet also provides seemingly unlimited information for readers to choose from. A few decades ago, many individuals only had a couple of news sources. Building on existing models of news selectivity to emphasize information utility, Messing and Westwood (2014) suggest that social endorsements fundamentally alter the way news is consumed. Their evidence suggests that social endorsements change the calculus that people utilize to select news in the context of social media. These findings suggest that social media should be expected to increase users’ exposure to a variety of news and politically diverse information.

Park (2015) finds that while social media has made it easier for people to access different ideas, the current way in which many people use these websites, sharing articles using confirmation bias, actually limits the variety of perspectives that they encounter due to the personalized networks created. Social media perpetuate bias; social channels make it more difficult to share opinions on controversial issues that they know their followers may be angered by.

Understanding where college students get their news may help future researchers understand why America is becoming increasingly polarized. Is it social media that leads to opinions or opinions that lead to usage of social media? Do College of Charleston students get their news from social media links that friends post, or do they go to the traditional news sites themselves?

Furthermore, not only do individuals engage in articles that reinforce his or her own attitudes or opinion (Ransbotham and Kane 2011), individuals are also more likely to share negative articles that reinforce them. Kätsyri et. al (2016) hypothesized that negative social media

messages would draw more attention than similar positive messages. News broadcasts were presented in isolation and with simultaneous positive or negative Twitter messages on a tablet to 38 participants in a controlled experiment. Recognition memory, gaze tracking, cardiac responses, and self-reports were used as additional indices. The experiment used a  $2 \times 3 \times 4$  within-subjects design with News Valence (positive, negative), Tweet Condition (positive, negative, control [none]), and Mood (joyful, relaxed, depressed, and fearful) as within-subjects factors. The results found a negativity bias for social media messages in media multitasking. This is relevant to social media studies because it gives empirical evidence that more attention is given to negative stories, thus raising the question that polarization may spur from individuals feeling inclined to post and share negative news on their individual social channels. The implication here is that it is plausible that college students receiving news from social media are more likely to read biased articles than if they were to go straight to the media source.

The evolution of social media played a crucial role in the 2016 Presidential election and illuminates the usage and implications of social media news. Following the election, one study found that social media was an important but not dominant source of election news: 14 percent of Americans called social media their 'most important' source. The study also found that people are much more likely to believe stories that favor their preferred candidate, especially if they have ideologically segregated social media networks (Allcott and Gentzkow 2017).

**Research Question:**

Are College of Charleston students exposed to news on their Facebook newsfeeds that reinforce their beliefs?

**Research Methodology:**

Social media posts present biased personal political views by the people that share them. As political posts on social media increase, polarization will increase. Those who are politically disengaged will have skewed opinions based on what their social media friends share. This can be detrimental to our increasingly polarized society. Those with similar views will feel more confident and those with opposing views will become more confident in their opposing view. Political posts on social media fuels polarization and give a convoluted and often skewed vision of reality. Although news sites themselves are becoming increasingly biased, they still are a primary source that do not include the middle man who is sharing the article on his Facebook page. In order to capture this, seven College of Charleston seniors' Facebook newsfeeds will be coded for political bias. This will investigate how college students receive their news and if there is evidence of confirmation bias.

The method used for this research is a content analysis of College of Charleston students' Facebook newsfeeds. Looking for confirmation bias, the participant's political leanings, the news sources, and the titles of articles were coded for ideology. When all three aspects were coded for the same ideology, there is an implication of confirmation bias. Thus, the participant is following friends on Facebook that share news that reinforce the participant's political views.

News associated with politics appearing on each participant's Facebook newsfeed from the past two hours was coded for conservative or liberal bias. I continuously scrolled the newsfeed for posts from the past two hours instead of constantly updating the feed for two hours. I documented into an Excel spreadsheet the participant's political leaning, the news source, and the title of the article as liberal (0) or conservative (1). I only documented those links shared publicly, as instructed by the IRB.

I coded for ideology rather than political party, because I am interested in seeing if people are following friends who share the same political philosophies, as American political parties are quite dispersed today. I used AllSides to code for website ideology. AllSides uses a patented bias rating system to classify news sources as left, center, or right leaning. Components of the rating system include crowd-sourcing, surveys, internal research, and use of third party sources such as Wikipedia and research conducted by Groseclose and Milyo at UCLA. I used this website to code if the ideology of the news websites being shared align with the ideology of the Facebook user, noting sources as liberal (0) or conservative (1) into the excel spreadsheet.

The titles of articles were coded subjectively using pre-determined keywords and perceived tone. I looked things that have to do with supporting increased spending, supporting science, supporting diversity and change for liberal; supporting corporations, de-regulating finance, supporting the military, defending men, encouraging the free market for conservative. Positive and negative tone will also play a role in the coding of titles.

The source and title of each article shared is coded as either liberal (0) or conservative (1) in Excel sheets. Newsfeeds are documented by the political leaning of the source and title into an excel sheet. I received IRB clearance under strict parameters to protect the participants' privacy. Nothing besides the three codes were recorded; I did not take screenshots or copy and

paste what was on the feeds. I only collected the source of the news, not who it was shared by. If the majority of websites shared are the same ideology as the individual, then it implies confirmation bias.

This method is unique as other studies were performed in labs or through surveys. I chose an invasive, private method to document information. By physically going onto people's Facebook newsfeeds, I investigated and saw what is really going on firsthand. This provided a natural setting for participants, rather than a lab study that could have skewed data.

## Results:

The following graph contains the data I found through the seven participants:

Participant's political leanings	Source bias	Title bias
Liberal (0)	0	0
	0	0
Liberal (0)	0	0
	0	0
	0	0
	0	0
	0	0
Conservative (1)		
Liberal (0)	1	1
Conservative (1)	0	0
	0	0
	0	0
Liberal (0)	0	0
	0	0
	0	0
	1	1
	1	1
Liberal (0)		

When all three numbers are the same, there is an implication of confirmation bias.

The first, a liberal College of Charleston senior student had two liberal articles appear on (his/her) newsfeed within two hours. The second liberal student saw five liberal articles, while the third conservative participant saw no news at all during the duration of the two hours. One liberal participant saw one conservative post. One conservative saw three liberal posts, while one liberal participant saw no news. Finally, the most optimistic result, was the sixth participant,

a liberal student who saw three liberal articles and two conservative articles. This is optimistic as it shows this student is exposed to both ideologies on his/her Facebook newsfeed. If more newsfeeds looked like this participant's, perhaps America would not be so politically divided today. It also could very well be a fluke due to the time of day or the people the participant follows: older adults or grandparents that enjoy following the participant's college life online but share very different political views.

This research is non-conclusive, but it raises important questions about the implications of social media news. Error could have occurred in several ways to skew the data. First and foremost, Facebook changed its algorithm during the study to push more friends' posts and less news. College students are friends with many types of people, whereas older adults may be friends with people that are much more similar to them. The implication here is that confirmation bias may be more viable with an older adult's Facebook account. However, this study examined seven College of Charleston seniors—students who have had four more years of forming opinions and views than their young peers. This may imply that older college students begin to curate their social media to align with their beliefs and opinions, whereas younger students are more interested in finding all kinds of friends.

As far as methods go in previous studies, this content analysis is unique. Most researchers do not go onto someone's social media to see what is really there, but this provides the best data, when we can see what people are naturally seeing instead of putting them in a lab setting. It provides a personal and natural news environment.

Also, the time that participants' newsfeeds were scanned could have been a quiet time politically, without much chatter surrounding the day. Other days may produce more online posts about heated political events. Furthermore, there were only seven participants. The

purpose of this research is not necessarily to prove anything, but to raise awareness about the effect social media news has on college students. If it is a primary source for college students, then this may be an issue as young people are inundated with biased stories. Perhaps campus initiatives or a new way for young people to receive news may be conceived.

One conservative participant noted that she unfollowed many of her more liberal friends after the election, as she was tired of seeing political posts that did not align with her views. Perhaps this is true for most people and therefore combined with the new algorithm that shows less news, participants unfollowing of friends has to do with the very few political posts that show in each participant's feed. One participant noted that she does not follow news sites; she follows fun blogs that share recipes and lifestyle tips. Another participant said that he follows mostly sports news and often ignored political news if it shows up in his newsfeed.



**Conclusion:**

There was not much news found on each newsfeed. Perhaps this is a fluke or perhaps it is specific to College of Charleston. These are things we should continue to look at going forward. But, as more participants were studied, the fact that less news is seen on Facebook became less of a perceived fluke and more of a trend. People are seeing less news and people are perhaps posting less news. Of what the participants have seen, this is what I can decipher: college students do tend to see stuff that slightly leans in their direction.

Because the majority of college students receive their news through social media sources, they are more than ever susceptible to fake and biased news. The implications of information disseminated through social media channels are likely to contribute to polarization in America today. When information gathering comes from social media rather than traditional media, the reader is more likely to read polarized news that supports his or her opinion rather than objective news that forces the reader to look at different sides. College of Charleston students are seeing less news on their newsfeeds which infers that either Facebook's newest algorithm is filtering out news more than before or that college students are sharing less news in general. The latter could mean that college students are turned away from politics as society has become polarized and politically chaotic.

Going forward, more research should be conducted to investigate how college-aged Americans receive news and which sources they go to for information. If the majority of this demographic are going to social media newsfeeds for information that is coming from people the user agrees with, the implications are far reaching, as this will exponentially increase

polarization. Perhaps policies such as incorporating debate into public high schools or the regulation of news should be implemented going forward. Exploring the relationship between motivated reasoning, confirmation bias, selective exposure and social media news could perhaps unveil way to reduce polarization in America.

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