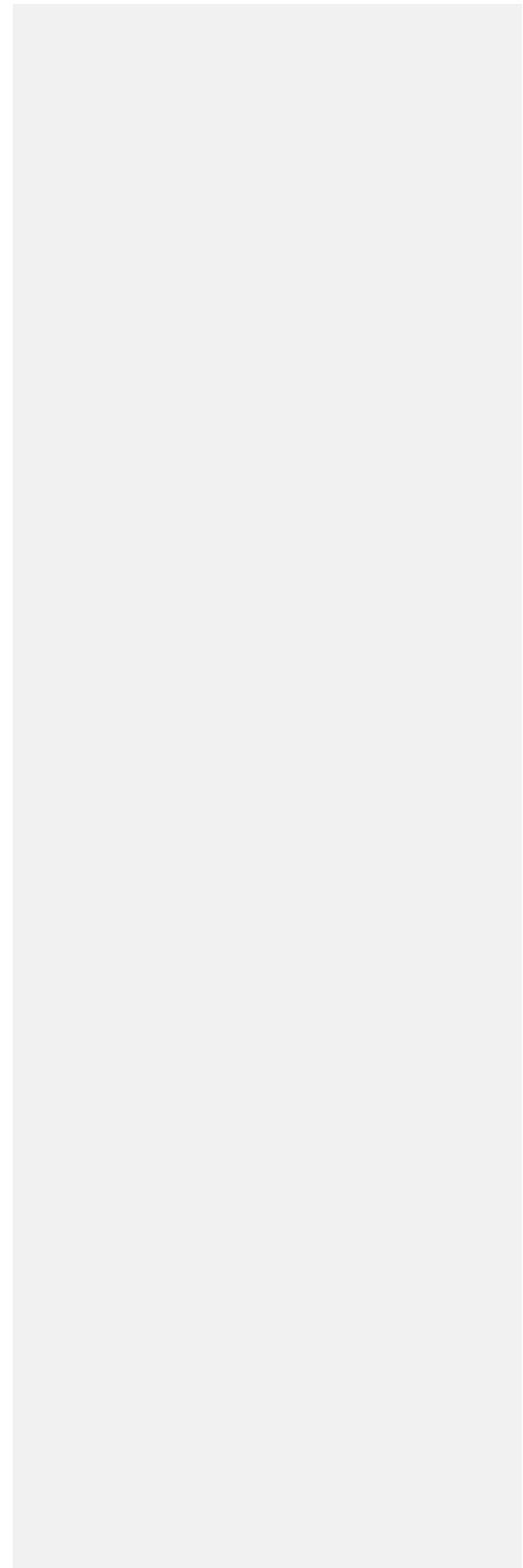


Selective perception, filter bubbles, and echo chambers on Twitter

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Abstract

This study seeks to examine filter bubbles and ability to influence echo chambers on Twitter. The purpose of this study is to determine how web user's selection of accounts to follow on Twitter alter their filter bubbles and can result in an echo chamber. Research is needed on echo chambers, such as what ramifications may come from understanding their presence to how new information get fish netted through filter bubbles to end up in your echo chamber.

Literature Review

Selective Perception, Filter Bubbles and Echo Chambers on Twitter

Over 335 million people have an account on the social media platform Twitter (Spangler, 2018). Although users often follow their family, friends, and colleagues, they also often choose to follow many additional accounts that reflect their interests and preferences. This research study seeks to examine how people execute selective perception through choosing to follow certain accounts. People often choose to follow accounts that they find agreeable to their point of view, political philosophy, and biases (Dearborn & Simon, 1958). This biased process of information selection creates filter bubbles (Farr, 2018). Even Twitter's CEO, Jack Dorsey, has acknowledged the issue of filter bubbles on Twitter. Through their selection of certain accounts, Twitter users are often limited in the information provided from these accounts. This research seeks to better understand how people make decisions about following accounts on Twitter and how these selections influence their information environment on Twitter.

Twitter

Twitter is generally a source of all types of information, neatly wrapped up into the convenience of a handheld device or a personal computer. The old days of sending the dog to get the paper are over as well as even having to move your head far enough to see the TV with a facial scan of your iPhone you will now have access to every news platform at the touch of your fingerprint.

Even with a lackluster year of losing 1 million users in 2018, Twitter is a social media powerhouse with 335 million users worldwide (Spangler, 2018). Twitter has dealt with a variety of issues, including its ineffective efforts to reject fake accounts and decrease nuisances on the platform. That said, there are many benefits to using the social media platform. Twitter

communities and dialogs need not be bounded by geography, propinquity, or social pyramid. As a result, social and political activities have taken to the site as a means of organizing activity both online and offline. In enabling these activities, Twitter simultaneously makes available a data trail never before seen in social exploration. Researchers have incorporated these statistics to create an expanding body of literature on Twitter and social media summons large. On the other hand, some researchers have been more disbelieving around using social media data in general, and specially data from Twitter, in studying social deeds. And some others question the significance of such data to social sciences completely. (Cihon & Yasseri, 2013).

Some research has examined how Twitter can affect people's consumption of news information and selective perception. Through their selection of certain accounts, Twitter users are often limited in the information provided from these accounts. Rosenstiel and colleagues (2015) examined three core groups — Twitter users, non-Twitter users on social media and social media users overall — whom of which consumed a good deal of news. In all, 77% of all social media users said they hold up with the news at least once a day, a number that was similar (76%) for non-Twitter users. But among Twitter users, news is a slightly bigger portion of daily life. For those, 81% said they preserve up with the news at least daily. (Rosenstiel, Soderman, Loker, Ivancin and Kjarval, 2015). They also asked participants what subjects they are most passionate about and then it asked them how they used Twitter to track that topic. The range of topics was fairly wide, with sports (25% cited it as a passion on Twitter) and politics/government (21%) at the top, shadowed by technology (14%) and civil rights (13%). The survey was conducted about the time of the debate over a police shooting and subsequent complaints in Ferguson, Missouri.

(Walker, 2018). This research study seeks to examine how people execute selective perception through choosing to follow certain accounts. People often choose to follow accounts that they find agreeable to their point of view, political philosophy, and biases.

Selective Perception

Selective perception happens when an individual makes judgments about information in a way that lines up with their attitudes. Selective perception was first researched by Hastorf and Cantril (1954), who identified it when surveying fans after a fight between Princeton and Dartmouth players at a football match. Unsurprisingly, fans took partisan views, strongly believing that the other team was the root of the violence. Since the original research on selective perception, more research has been done to understand this theoretical concept. This research has examined selective perception (Dearborn & Simon, 1958), perceptual screens (Cyert & March 1963), personal bias (Stagner, 1969), collective blindness (Turner, 1976), tunnel vision (Mason & Mitroff 1981), functional fixedness (Katz, 1982), strategic myopia (Lorsch, 1985), and contested belief structures (Walsh & Fahey, 1986). The concern shared by the scholars cited is that individuals unknowingly may fall prey to suboptimal information processing strategies. Moreover, recent social psychological work in the area of schematic information processing suggests that peoples' decisions may be compromised by their information-processing limitations (Brewer & Nakamura, 1984; Taylor & Crocker, 1981; Walsh, 2012)

Filter Bubbles

A filter bubble is the knowledgeable seclusion that can occur when websites make use of algorithms to selectively assume the information a handler would want to see, and then give information to the user according to their account (Morgan, 2016). Websites make these assumptions based on the information interrelated to the user, such as former click behavior,

browsing history, search history and location. For that reason, the websites are more likely to present only information that will abide by the user's previous activity. A filter bubble, therefore, can cause users to get significantly less exchange of contradicting viewpoints, causing the user to become intellectually isolated (Delaney, 2017). For instance, some auto-filler are intended to help you identify innovative individuals to follow on Twitter based on your interests. Still, additional auto-follow systems maintain lists of Twitter accounts that will automatically follow you back if you follow them.

Echo Chambers

An echo chamber is defined as environments in which an individual's own political beliefs are repeated and amplified and dissenting opinions are separated out (Cite this). Echo chamber are especially prevalent online. Recent research demonstrates that social networking sites such as Facebook or Twitter can enable this assortment into standardized networks. Commentators have warned that blogs could become, and perhaps already are, concentrated echo chambers in which readers only expose themselves to views they already believe (Gilbert, Bergstrom, & Karahalios 2009)

Research on echo chambers opens light to a topic that goes unnoticed by most social media users. The ability for a group of people to have their options reinforced by selective media can have many potential effects. Network analysis of social media users discussing climate change has shown the presence of echo chambers (Hewitt,2018). Research has also shown that as users are commonly segregated within like-minded communities to the point that the start to engage with larger inconsistencies in their echo chambers (Dubois, Blank, 2018). Digital media has the ability to support the formation of a public sphere, where a diversity of opinion and

information can interact; or, conversely, it can function as an echo chamber that reinforces established perspectives and opinions (Colleoni, Rozza, Arvidsson,2014)

Synthesis Section

With fewer people consuming traditional media, more people than ever before are getting their information from social media platforms like Twitter (Shearer & Gottfried, 2017). What users read on Twitter has the potential to shape their understanding of reality. When looking at political issues, people often limit themselves to information from like-minded sources (Ignant, 2016). This limiting of information on Twitter could create filter bubbles (Hern,2017), which means that people often have incomplete information on any topic. This limiting of information on Twitter could create filter bubbles (Murphy, 2018). Called echo chambers, groups of Twitter users reinforce each other's perspective by limiting the amount of outside information available (Jackson,2017). It is important to examine how selective perception creates filter bubbles and echo chambers on Twitter. Consequently, the following hypotheses are proffered:

RQ1: What types of Twitter accounts do individuals follow to learn about current events?

RQ2: How do individuals report selecting Twitter accounts to follow to learn about current events?

RQ3: Do individuals believe the current event information they read on Twitter is unbiased?

Method

Participants

Participants will be recruited via the Communication Studies Department at Marshall University. Instructors will send out a link to an online survey for students to participate in. Participants will receive a small amount of course credit for study completion. A minimum of 50 participants will be recruited to complete the study. Participants will first report age, sex, race, and education level and then, participants will report the social media platforms they use, the amount of time they spend on those platforms.

Procedures

This project will utilize an online survey to collect data from the participants. First, IRB approval will be obtained for this study. You will likely be using a survey or doing a quantitative content analysis. You could possibly do an experiment. Upon opening the link to the survey, they will be asked if they have an account of twitter. When participants indicate they do not have an account they will be thanked for their interest and excluded from the study the remaining participants will be asked to respond to questions that measure their demographics, social media use, time spent on social media, the type of accounts they follow on twitter, questions about how they choose to follow accounts on twitter, and their perceived credibility of the information they read on twitter participants will then be thanked for completing the survey. What you are going to do is explain which method you are using and justify that choice. Then you will list everything you need to measure in your study. More detail about each measure will be provided below in the instrumentation section.

Instrumentation

Variable 1.

Time spent on social media- time spent on social media will be measured via self-report specifically participants will be asked to report the average amount of time they spend each day on Twitter Instagram and Facebook. (Participants were asked to report the average number of hours and minutes they spent each day on each platform (Hughes, Rowe, Batey, & Lee, 2012) Types of twitter accounts followed: participants will be asked to indicate which types of twitter accounts they follow choices will include: Celebrity, News, Political, Memes, Health, Science, Brands, Music, Media. Participants will be asked to check all types of accounts they follow.

Attitude toward Twitter Accounts. Attitude towards the different types of Twitter accounts will be measured with an adapted six-item, five-point Likert scale (Henthorne, LaTour, & Natarajan, 1993). Participants will be asked to respond to the following prompt: <Type> Twitter accounts are... good, interesting, informative, appropriate, easy to understand, and objective. Participants will respond to each item on a scale, wherein 1 indicates strong disagreement and 5 indicates strong agreement.

Perceived Credibility. Participants will be asked to select the option that best represents how they perceive the credibility of the information they read in different types of Twitter accounts. This will be measured using eight of the items from Ohanian's (1990) seven-point semantic differential scale. Perceived trust will consist of the following anchors: undependable/dependable, dishonest/honest, and unreliable/reliable. The measure for perceived expertise will include: not an expert/expert, inexperienced/experienced, unknowledgeable/knowledgeable, unqualified/qualified, and unskilled/skilled.

You will need to provide details about how you are measuring the first variable. Look at the example paper provided. You need to have the scale name, number of items, scale values, and at least one sample question from the scale.

Variable 2. Hughes, Rowe, Batey, and Lee, (2012)

1. I use twitter to find and spread information
2. Twitter is primarily for information
3. I use Twitter to keep abreast of current events.

Participants will respond to each item on a scale where in 1 indicates strong disagreement and 5 indicates strong agreement.

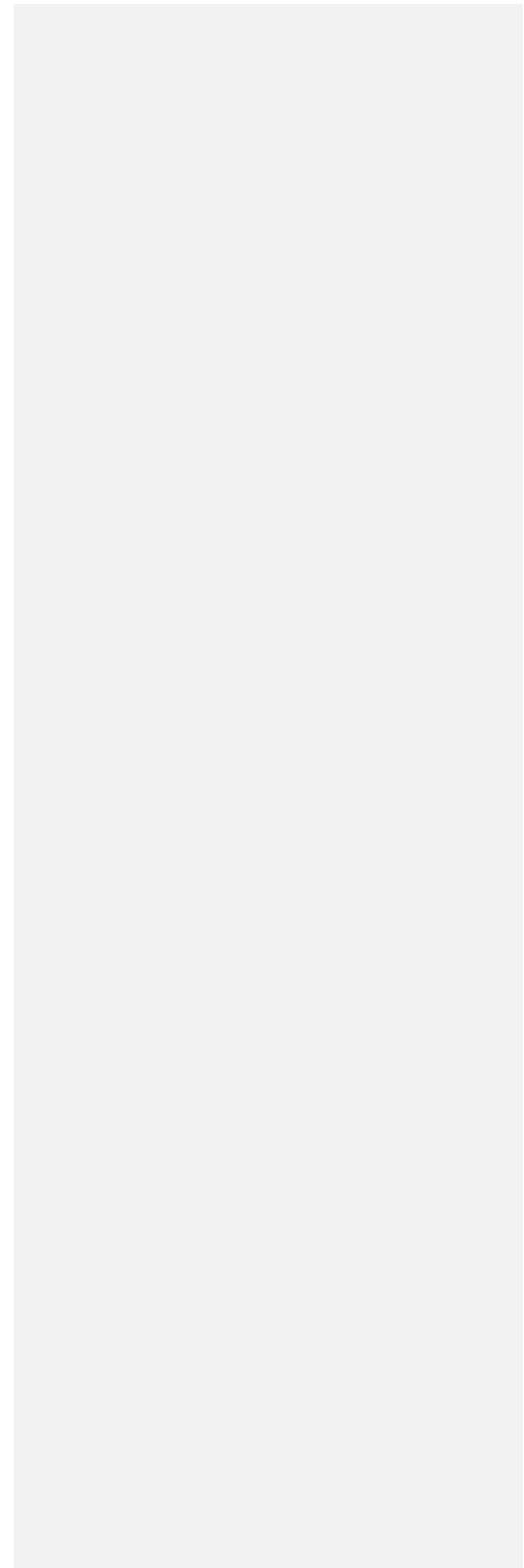
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Walker, L. (n.d.). What 'Auto-Follow' on Twitter Is and How it Works. Retrieved from <https://www.lifewire.com/what-is-twitter-auto-follow-2654619>



Appendix A (PUT YOUR QUESTIONS HERE)

Perceived credibility- On a 7-point semantic differential scale the following will be measured:

undependable/dependable, dishonest/honest, and unreliable/reliable.

The measure for perceived expertise will include:

not an expert/expert, inexperienced/experienced, unknowledgeable/knowledgeable,

unqualified/qualified, and unskilled/skilled.

Types of Twitter accounts followed:

Celebrity, News, Political, Memes, Health, Science, Brands, Music, Media.

Do you have an account on Twitter? Yes or No

Demographics:

Age: Sex: Race: Education level:

Social media use

Check all the types of social media accounts you have: Twitter, Facebook, Instagram, Snapchat

Please estimate the amount of time you spend on a typical day using social media:

Please estimate the amount of time you spend on a typical day on Twitter:

Twitter use

I use twitter to find and spread information?

Twitter is primarily for information?

I use Twitter to keep abreast of current events.?

Participants will respond to the following scale:

1- strongly disagree, 2- disagree, 3- neutral, 4- agree, 5- strongly agree

Participants will be asked to respond to the following prompt: Twitter accounts are... good, interesting, informative, appropriate, easy to understand, and objective. Participants will respond to each item on a scale, wherein 1 indicates strong disagreement and 5 indicates strong agreement.

