Literature Review

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Introduction

The phenomenon of "fake news" has become notorious throughout the United States and beyond over the past several years. The phrase, in its truest sense, is used to describe the spread of misinformation, conspiracy theories, and propaganda. However, in the current global political climate, it has been weaponized and applied haphazardly to information that is perceived as contradictory to certain ideals and agendas, regardless of its veracity. Although the phrase "fake news" has a rather recent coinage, the spread of propaganda is hardly a new concept. The danger it poses as well as the consequences to human society have been seen throughout history, all over the world. At its most innocent, misinformation can lead a person to make small, inconsequential changes to their lifestyle. At its most nefarious, it can incite serious acts of violence and/or cause human suffering and death. By looking closely at the evolution of the "fake news" phenomenon over the past few years, it has become increasingly apparent that many people struggle to discern between verified, reliable information sources and blatant misinformation. Fortunately, the field of library and information science is in a unique position to combat this. It is the duty of LIS professionals to advocate for the truth and guide others in the process of validating information, otherwise known as information literacy. Equipping the public with the tools and knowledge they need to make informed decisions about the media they consume is paramount to dispelling myths and conspiracy theories. As Denise Agosto (2018) states in her book, *Information Literacy and Libraries in the Age of Fake News,* all people benefit from the truth.

This literature review will be touching on the following themes: the origins and background of our current information environment, how misinformation has affected different facets of society, the implementation of information literacy education and validation measures, and finally, what more the LIS field can do to minimize the impact of "fake news." The sources

consulted for this review are largely made up of scholarly, peer-reviewed articles, apart from one published book, a few news articles, and publicly available research data. The subject of "fake news" is so broad and multi-faceted that the field is far from lacking for content, studies, and new forms of thought. Some of the specific issues that will be discussed in this review are the 2016 presidential election, the QAnon phenomenon, Russia's 2014 propaganda campaign in Ukraine, the validity of Wikipedia, and the COVID-19 pandemic. Some endeavors taken within the LIS field to increase information literacy, as well as studies done on their effectiveness, will also be examined and analyzed. The core concept of this literature review is to emphasize the importance of library and information sciences in the fight against this particular threat to our society, how the field has already initiated significant change, and what those in the field can continue to do to champion for the truth.

The Current Information Environment and How We Got Here

The complex information environment we have found ourselves in can primarily be attributed to the rise of the digital age. The shift from print to digital was revolutionary in terms of information accessibility but is not without its pitfalls. This is especially true when it comes to news sources. Nowadays, the printed newspaper has fallen by the wayside. While it is not uncommon to see members of older generations still buying physical newspapers, it is rare in the younger generations, who prefer to access their information online. A problem arises because paper-based sources often went through a vetting process before being published. Professional editors and experts were consulted before the information was made widely available. This is often *not* the case with digital news sources (Agosto, 2018). Furthermore, with the addition of social media, people are less frequently going to digital news sources for information. This was seen during the 2016 U.S. presidential election, when 14 percent of adults reported relying on

social media as their most important resource for news (Alcott, Hunt, and Gentzkow, 2017). This translates into more than 30 million potential voters whose opinions may have been swayed by what they saw their friends post (Agosto, 2018). The time we spend online has been gradually increasing as well. As of 2018, it is reported that nearly 90 percent of U.S. citizens regularly go online (Smith and Anderson, 2018) and the average U.S. adult spends over 10 hours a day looking at screens (Howard, 2016). We are almost constantly inundated with information, so it is understandable that it would become difficult to tell true from false, verified from unverified, without consciously and deliberately analyzing every piece of information we consume. The information environment has become incredibly murky and challenging to navigate, especially for the layman, which is why providing information education to the public is vital. Agosto states in her book, "… librarians can play the role of information educators, helping to empower their users, not just to access information but to understand which information to trust."

The Consequences of Misinformation

As stated in the previous section, misinformation played a role in influencing a significant chunk of potential voters in the 2016 U.S. presidential campaign. These people were gleaning information from social media and questionable news sources, but the underbelly of this was far more sinister. The misinformation cropping up across social media platforms began mutating into fully-fledged conspiracy theories after the election, the source being the conspiratorial worldview known as QAnon. QAnon began as a single 4chan user, known as Q, claiming to be a government insider and posting obscure, paranoid theories, eventually moving from the 4chan forums to 8chan (Beene and Greer, 2021). Their messages attracted fringe users and conspiratorial thinkers, and eventually evolved into an entire movement centered around wild, anti-governmental conspiracies that inevitably came to a head in the form of the Capitol

insurrection that took place on January 6th, 2021. This consequence of misinformation was an unfortunate cocktail of the non-vetted 4chan/8chan message boards and the backing of a presidential administration who not only refused to refute the conspiracy theories, but upheld them, validated them, and spread them to their supporters (Beene and Greer, 2021). It is astonishing to conceive of such an event occurring in our lifetime, but it is a harrowing example of what can happen when misinformation circulates unchecked.

The COVID-19 pandemic also brought about waves of "fake news." While the world went into lockdown, the digital world became the only escape for many people. Fear and anxiety permeated the zeitgeist, and as such, people were finding answers to their questions in the wrong places, namely social media. The introduction and distribution of the vaccine, which was meant to herald in the end of these difficult times, only seemed to fuel the conspiratorial thinkers. Anti-vaccine sentiment is nothing new. Similar pushback was faced when measles began spreading again in the U.S. in 2019, as well as the efforts for the human papillomavirus vaccine that prevents cervical and other cancers (Hotez, 2021). However, the aggression toward the COVID-19 vaccine is having extremely dire consequences in real time. With the highly transmissible Delta variant gaining a foothold in the U.S., those unvaccinated are becoming severely ill and passing away, with many news stories emerging that document the regrets of hospitalized COVID patients who wish they had listened to the science (Bort, 2021). This onslaught of dangerous misinformation is being spread by trusted members of communities, such as government officials, local radio hosts, and news reporters, who are now partly responsible for the suffering of their constituents (Bort, 2021).

Damage Control: Fighting "Fake News" with Information Literacy

Naturally, information professionals around the world have not sat idly by to watch misinformation spread unabated. Countless ideas, initiatives, and efforts have been proposed and implemented. For example, in the case of QAnon and conspiracy theories, the CRAAP (Currency, Relevancy, Authority, Accuracy, Purpose) test is used as an information evaluation tool. However, Beene and Greer (2021) state in their journal that it is too simple for the complexities of today's information environment. They urge those in information sciences to learn from the conspiracy research in the social sciences and psychology. To learn how to prevent people from falling into conspiratorial traps, you must understand why people believe in them in the first place. Much of conspiratorial thinking rests in fear, uncertainty, anxiety, paranoia, and perceived exploitation or vulnerability. It also often displays a snowball effect with the conspiracy theorist first believing in one, then subsequently believing in another, and so on (Beene and Greer, 2021). Looking to other fields can provide valuable insight and expertise into our own practices.

We can also look to other countries who have successfully implemented information literacy programs. In 2014, a serious and deadly political conflict between Ukraine, Crimea, and Russia reached a fever pitch. Russia deployed information warfare against Ukraine, spreading a vast amount of misinformation across both television and Internet (Haigh, Haigh, and Matychak, 2019). These events exposed Ukraine's deeply inadequate information literacy programs. As a result, the country was able to obtain international funding to overhaul their approach to information literacy. This birthed the Learn to Discern program (originally called "Citizen Media Literacy") in February 2015. The purpose of the program was to educate Ukrainian citizens on discerning reliable news sources, especially when receiving conflicting information (Haigh, Haigh, and Matychak, 2019). They completed a textbook, trained instructors, and got to work.

The program ran for nine months during 2016 and 2017 and was tested for effectiveness about eighteen months after it was initiated. They administered tests to individuals who had participated in the training and found that they exhibited a much higher level of vigilance to possible misinformation and displayed more confidence in their ability to identify "fake news." Eighty-two percent of participants reported that they began cross-checking the claims made in news reports after completing the Learn to Discern training (Haigh, Haigh, and Matychak, 2019). A more surprising result was that the program even influenced people who did not participate in it, because it empowered people to teach one another. Ninety-one percent of participants reported sharing their knowledge with friends, loved ones, and colleagues. In the end, the program had reached about ninety thousand Ukrainians, and even after its completion, many librarians continued to offer free information literacy training to the public (Haigh, Haigh, and Matychak, 2019).

Another source that could provide valuable insight into cultivating information literacy is, surprisingly, Wikipedia. Wikipedia has a notorious reputation, especially amongst educators, for being an unreliable source of information. This opinion is based on the fact that the site can be edited freely by anyone. The mantra that Wikipedia is a poor source of information is one that has been beaten into the heads of generations of students. In reality, however, this is a rather narrow and close-minded view of the community Wikipedia has fostered since its inception. That is not to say that Wikipedia has been without its issues. It took time for the platform to evolve and integrate best practices into its information vetting, but the community has become something truly unique on the Internet. On Wikipedia, users have the opportunity to learn information literacy skills through a public writing experience. Because the community is self-moderated, users are motivated to present verifiable information and to encourage and teach

others to do the same (McDowell and Vetter, 2020). Wikipedia has become a volunteer network based entirely around the desire to learn and provide equal access to valid information and a true system ran by the people. Learning to be an editor on Wikipedia is, in itself, a lesson in information literacy, and its community-generated policies are designed to protect the site from disinformation (McDowell and Vetter, 2020).

Finally, in response to the COVID-19 pandemic, information literacy has been found to successfully curtail the waves of "fake news" that emerged. A study amongst LIS undergraduates in Nigeria was performed to identify the correlation between ILC (Information Literacy Competency) and the ability to identify pandemic-related "fake news." It was hypothesized that results could be mixed, as the undergraduates were all young adults who spent a lot of time on social media. Therefore, some may fall victim to misinformation. However, it was found that the students all possessed very high levels of ILC, and as a result, exhibited a low vulnerability to "fake news" (Igbinovia, Okuonghae, and Adebayo, 2020). They had the ability to analyze and identify the information they consumed and determine whether or not it was verifiable. Although this is only one study, it showcases that information literacy is a definitive tool that can be used to combat misinformation.

Conclusion: What More Can Be Done?

By looking at successful information literacy initiatives, information professionals can borrow and adapt ideas, theories, and practices into their own efforts. Because critical media literacy is not often found in schools, it falls on librarians and others in the field to educate the public. In comparison to other forms of literacy, information literacy has been found to be the most closely associated with accurate identification of "fake news" (Jones-Jang, Mortensen, and Liu, 2019). It is also important to remember that it is never too late to get started. As we saw in

Ukraine, even after a political upheaval that made it almost impossible to tell fact from fiction, people can still learn how to discern and analyze their media effectively.

So, what can a librarian do? Integrating information literacy workshops into library events could be a solid place to start. Many libraries have seen success after evaluating the effectiveness of different styles of workshops, including those that teach how to discern whether photographs have been retouched or altered, how to spot phony domain names, and how to use advanced search techniques to verify information (Hanz and Kingsland, 2020). Games are also an engaging way to teach information literacy, such as the "Fake or For Real?" game developed for Hanz and Kingsland's (2020) case study, wherein participants were shown videos of various news stories and asked to guess whether the story was fake or genuine.

Additionally, there are different models available that librarians can follow to teach information literacy. The CILIP model (named after the Chartered Institute of Library and Information Professionals in the United Kingdom) was developed as a generalized approach to information literacy. It provides eight competencies that demonstrate the basic skills needed to discern information, such as understanding the need for information, the resources available, how to find information, and the need to evaluate results. It has been said that this model is *too* generalized, however, and cannot be applied to every situation or context (De Paor and Heravi, 2020). In contrast, the Society of College National and University Libraries developed a much more adaptable model in 1999 known as the Seven Pillars of Information Literacy. Unlike the more linear CILIP model, the SCONUL model is three-dimensional and constructed of seven competencies that have been revised and adapted regularly over the years. In addition, SCONUL developed a set of different lenses which can be applied to each of these competencies,

depending on the context of the information need (De Paor and Heravi, 2020). These models are worth studying and applying to any efforts for information literacy programming.

Caroline Osborne (2018) states in her journal that information professionals should avoid "reinventing the wheel" when it comes to information literacy. Instead, we should turn to the experts and see what works, then borrow, adapt, and tweak it as needed. (Osborne 2018). She suggests adding in workshops that discuss the definitions of satire and parody, as well as the use of propaganda in advertising and public relations, as these concepts can cause consumers to become easily confused (Osborne 2018). Osborne (2018) also advocates for the inclusion of journalism principles into the realm of information literacy programming, such as the practice of digging to find the source of a story.

The spread of misinformation in media is a problem that has plagued society throughout history. It seems impossible to prevent it from happening, as there will always be corrupt figures wishing to manipulate the public. However, there are ways to fight back, and information professionals are at the helm. By employing programming and education that has proven successful in the past, we can continue to grow and develop information literacy in our own communities, states, and countries, arming the public with the tools they need to tell fact from fiction. We also need to be continuously honing and adapting our own personal practices in vetting information. We are not immune to the trend of "fake news" simply because we are information professionals. Our academic research and essays can be just as easily affected by misinformation (Auberry, 2018). Dangerous entities such as QAnon and the Russian intelligence forces have caused significant damage to our information environment and even altered the course of our democracy. Therefore, it is of utmost importance that those in the library and

information sciences recognize their duty to dispel myths and work to bring equitable, valid information to light.

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