Political polarization, misinformation, and media literacy

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ABSTRACT

Today's college students grew up with digital news media and social media readily available on their smartphones. As a result, students are likely to use their smartphones to access the news through social media where partisan misinformation is easily spread. Efforts to combat the spread of misinformation on social media are being explored on several fronts, including media literacy programs. While media literacy is not a cure-all for the problems posed by misinformation, it is helpful for instructors to understand how adept U.S. college students are at assessing the credibility of the news on their phones and the influence political polarization has on the students' news consumption. This study addresses how 206 undergraduate students at a regional university in the Southwestern United States interact with social media, consume the news, and determine which news articles to believe. It offers insights into the role media literacy may have in addressing the issue.

Keywords: *polarization, misinformation, social media, students, media literacy*.

INTRODUCTION

Political polarization garnered much attention in the years leading up to the 2016 presidential election and after it. Research suggests that polarization taken to the extreme of vitriol is creating a crisis in the U.S. governance (Klein, 2020; Kohn, 2018). Historically, partisan news outlets have been cited as sources of entrenchment furthering the deep political divides in our country, and misinformation playing to individual biases disrupts dialogue even further (Garrett et al., 2019; Hutchens et al., 2019). In recent years, many studies have highlighted social media's role in the spread of misinformation and disinformation, also known as fake news (Anderson & Rainie, 2017; Allcott & Gentzkow, 2017).

Misinformation is not a new phenomenon, but in its current form, fueled by social media, it presents problems not faced in previous iterations (Allcott & Gentzkow, 2017; Barclay, 2018; Guess et al., 2018; Soll, 2016; Verstraete et al., 2017). Key differences in this new era of misinformation compared to past versions include the ability its creators have to spread falsehoods rapidly through social media, to easily alter articles, photos, videos and audio files, to target their intended audience, and to mask their true identities (Allcott & Gentzkow, 2017; Barclay, 2018; Rayess et al., 2018; Verstraete et al., 2017).

There are increasing concerns that misinformation combined with a politically polarized society threatens democracy as unreliable information shapes voter choices in elections and leads to less transparency and less trust in democracy (Hollyer et al., 2019). Sixty-eight percent of Americans believe misinformation undermines trust in government (Mitchell et al., 2019). University students, who mainly obtain news through social media, also struggle to differentiate between actual news and misinformation with 45% of college students in a recent study saying they find it difficult to determine when an article is fake (Head et al., 2018). Higher education has an important role to play in educating future citizens; universities and colleges are "entrusted with the lives of young human beings growing into adults with a moral and ethically engaged life in front of them" (Black, 2013). As students emerge into adulthood, they explore identities and roles, as well as different possibilities of work, relationship, and world view (Arnett, 2000; Reio & Reio, 2020). Drawing on students' curiosity, need for exploration (Portes et al, 2014; Reio & Reio, 2020), and optimism about the future (Hornblower, 1997; Arnett, 2000) during this

developmental stage, educators are in a unique position to teach critical thinking and problem-solving skills related to media literacy.

The purpose of this study was to analyze how undergraduate students interact with social media, consume the news, and determine which news articles to believe. Social media and new devices are constantly changing the ways news is consumed, which continues to create gaps in our knowledge concerning how to address misinformation. A significant gap in the research is how to address media literacy concerns raised by these changes. This study provides insights into how college students interact with media, which suggests a need for additional research into possible solutions to address media literacy concerns. The study is significant because the college experience represents one of the final educational opportunities to teach young adults how to think critically about the news that will influence their decisions in the years ahead. A better understanding of how college students currently consume the news should provide helpful insights for future studies.

Misinformation, partisan bias, and social media

Any discussion of misinformation or fake news requires an acknowledgement that multiple definitions have been applied to both terms in everyday use and in scholarly literature. The term "fake news" has been popularized and politicized in recent years, and its multiple definitions now cover a wide variety of information. Today, depending on the user, the label "fake news" may be applied to everything from critical (accurate or inaccurate) news reporting, to satire or fabricated news designed to deceive the reader for political gain or profit (Tandoc et al., 2017). The definition of misinformation also varies depending on the source. The term is typically applied to information that is false or misleading. Some definitions of misinformation include the element of intent to deceive, while others reserve intent for the term disinformation, and disinformation may be viewed as a subset of misinformation (Treen et al., 2020). Wardle (2017) developed a scale to measure misinformation and disinformation based on the intent to deceive. Social media users may unintentionally share misinformation in the mistaken belief that what they are sharing is true (Treen et al., 2020; Wardle, 2017).

For the participants in this study, we defined fake news as articles or photos that are false and designed to mislead (Allcott & Gentzkow, 2017). In the context of

information shared on social media, this definition of fake news fits the definition of misinformation used by Treen et al. (2020), which is misleading information spread regardless of intent. In this study, we use the terms fake news and misinformation interchangeably.

Concerns about the amount of misinformation and its potential influence in democratic societies reached a new high during the 2016 U.S. presidential election. A Pew Research Center poll found 64% of Americans are concerned that fake news stories "cause a great deal of confusion about the basic facts of current issues and events" (Barthel et al,, 2016, para. 2). Pew Research Center Surveys have shown 53% of U.S. adults say they get news either often or sometimes from social media, and that those who rely on social media for political news tend to be less informed about major news events than those who consume news in other ways (Shearer, & Mitchell, 2021; Mitchell et al, 2020, July 30).

Following the 2016 U.S. presidential election, the U.S. government indicted 13 Russian agents and three Russian companies as part of its investigation into how the Internet Research Agency (IRA) intentionally spread misinformation on social media in an effort to influence the election (Apuzzo & LaFraniere, 2018; Issac & Wakabayashi, 2017; Rodriguez & Jin, 2018). U.S. intelligence officials believe Russian campaigns on social media are continuing to attempt to interfere in U.S. elections (Goldman et al., 2020; Wines & Barnes, 2018). Major social media companies have acknowledged misinformation does spread on their platforms and have taken several steps to address the problem, but it is an ongoing battle (Facebook Newsroom, 2018; Frenkel & Fandos, 2018; Vanian, 2018; Jansen, 2020).

Two factors contributing to the proliferation of misinformation include the political polarization of society in the U.S. and the ease of spreading news through social media platforms (Allcott & Gentzkow, 2017; Taub, 2017). Today, partisan politics and the echo chambers created by social media or targeted websites have increased the impact misinformation and rumors are having in U.S. society (Bakir & McStay, 2017; Schmidt et al., 2017; Shin et al., 2017). Features contributing to the spread of misinformation also include: a decline in the public's trust in traditional media as legacy media experiences falling revenues, the pressing demands of the 24-hour news cycle, the ability for anyone to share stories with a wide network on social media, the highly emotional nature of online discussions, and the opportunity for websites to financially benefit from the increased traffic generated

by misinformation (Allcott & Gentzkow, 2017; Bakir & McStay, 2017). Misinformation is often spread by individuals seeking political gain or to influence governments (Allcott & Gentzkow, 2017; Khaldarova & Pantti, 2016; Lazer et al., 2017). Partisan politics is a root cause of the spread of misinformation with the political polarization of U.S. society creating confirmation bias and echo chambers allowing misinformation creators to use social media to influence the political process (Lazer et al., 2017; Taub, 2017). Pew Research Center polls show 23% of Americans say they have shared fake news articles, sometimes knowingly and sometimes not (Barthel et al., 2016). The research indicates social media is likely to continue to play a role in spreading or combating misinformation in the future.

Partisan bias has a strong impact on the sources news consumers view as trustworthy and creates a "different reality to Republicans than to Democrats" (Taub, 2017). A review of how Facebook users share news items also determined users tended to rely on limited news sources, which increased polarization of the users into distinct communities (Schmidt, et al., 2017). Social media users tend to prefer information supporting their views (confirmation bias), and traditional media's efforts to challenge misinformation can further entrench their original views (Lazer et al., 2017; Mihailidis & Viotty, 2017). Political activity is a strong predictor of the type of person who is likely to share fake news stories (Lazer et. al., 2017). Compounding the problem is a decline in the public's trust of the traditional media. There is little difference in the trust social media users place in a nationally branded news outlet as compared to an unknown one (American Press Institute, 2017). Resnick et al. (2018) observed: "Social media sites and search engines have become the de facto gatekeepers of public communication, a role once occupied by publishers and broadcasters" (p. 1). A growing trend toward fact-checking news sites may be helpful, but the sites may not be reaching the same people who have seen fake news articles (Guess et al., 2018).

As traditional media struggle to combat fake news, the widespread use of social media among high school and college students continues to impact when and how students first hear about news events. High school and college students have been found to rely on incidental news largely spread by friends on their social media feeds to keep them informed about major news stories (Bergstrom & Belfrage, 2018). Further, social media users often take a relaxed approach to the news they see on social media, scanning it for a brief overview and

only seeking more information on selected stories (Bergstrom & Belfrage, 2018; Meijer & Kormelink, 2014). The Pew Research Center found 59% of U.S. adults expect the news they read on social media to be inaccurate (Shearer & Mitchell, 2020), which appears to indicate that news on social media also faces a credibility gap.

Media literacy and students

One result of the increased concerns about misinformation spreading through social media has been a call for media literacy efforts to address the issue, but it is not clear that media literacy education holds the answer. The influence of social media and audience-generated content presents complex challenges for media literacy efforts (Bulger & Davison, 2018). An open question, posed by Bulger and Davison (2018) is whether media literacy can "be successful in preparing citizens to deal with fake news and information?" (p.13). The rise of digital media creates new concerns about media literacy, such as privacy issues, in addition to traditional concerns such as distinguishing between opinion, advertising, and news (Hobbs & Jensen, 2009). A recent study found that information literacy, the ability to find reliable sources, was helpful in detecting fake news, but other forms of literacy (media, digital, and news) did not appear to have an impact (Jones-Jang et al. 2021).

Stanford History Education Group (2016) found in a poll of middle school, high school, and college students that even the digital generation is doing a poor job of telling the difference between fake news, real news, and advertisements. The study, "Evaluating Information: The Cornerstone of Civic Online Reasoning," states in its executive summary:

> Our digital natives may be able to flit between Facebook and Twitter while simultaneously uploading a selfie to Instagram and texting a friend. But when it comes to evaluating information that flows through social media channels, they are easily duped (p. 4)

The study found middle schoolers are unable to tell the difference between online news stories and advertisements, many high schoolers did not question the sources of photos, and college students had difficulty determining the validity of tweets. Efforts at combating misinformation through college level media literacy courses have had mixed results. Many students do not fully "appreciate the media because they don't understand its special role as the Fourth Estate" (Dyer, 2017, p. 10). Bergstrom, et al. (2018) studied the impact

of a college class presentation on media literacy and found that students who participated in the program showed themselves to be more media literate a month later than a control group who had received no training. Mihailidis (2009) conducted focus groups with university students who had received media literacy training and found that while the students learned to be critical of the media, they failed to reflect on the value of information and their need to understand the media as engaged citizens.

Mihailidis and Viotty (2017) make a case for the need to teach media literacy and suggest efforts to do so need repositioning. The authors suggest teaching media literacy to encourage connectivity and to promote caring for others. They also suggest media literacy efforts should focus on local engagement and civic impact. Students polled after they took a news literacy course at Stony Brook University indicated a rise in the number who believe the news media "played a watchdog role in society," but their faith in the media had declined in surveys a year later (Dyer, 2017). Even as they advocate media literacy classes, Mihailidis and Viotty (2017) note one problem: consumers may desire to read news fitting their own views more than they desire to find the truth. Bulger and Davison (2018) point out a lack of common U.S. standards to teach and measure the success of media literacy efforts, which are typically aimed at students and not parents. A study of 200 high school students showed 70 percent of the students trusted sponsored content over a science news article on a topic, and efforts to improve media literacy with checklists fall "short because it underestimates just how sophisticated the web has become" (McGrew et al., 2017, p. 7). The authors suggested students could learn from professional fact-checkers who use the power of the web to analyze the credibility of news.

METHOD

Participants

Researchers distributed one thousand three hundred and forty-one (1,341) emails to undergraduate students at a large research focused university in the Southwestern United States asking that they participate in a survey. Two hundred and sixty-eight of the students (20%) who were emailed the link to the survey responded, and 206 (15%) completed the survey and were included in the results. Participants were taking courses in the school of journalism and mass communication.

Thirty-five of the students completed the survey in a classroom setting and 171 students participated outside the class. The complete survey is included in the Appendix.

Most of the participants were informed of the survey by one of the researchers during a class period and then offered the opportunity to participate outside of the classroom in an email forwarded by their instructors. Participation was voluntary, and students could stop at any time. For the purposes of the survey, fake news was defined as "articles or photos that are false but designed to appear as real news in order to deceive the reader." Satire was excluded from this definition.

Measures

The questionnaire included 50 items which measured demographics, social media use, news consumption, media bias and credibility, fact checking, news trustworthiness, political affiliation, access of news, frequency of access of news, and determining real or fake news. The questionnaire also included a five-article news quiz that reproduced the headline and the first paragraph of five articles taken from the fact-checking website Snopes.com, which identified two of the items as fake news and three as actual news articles. Students were asked if the five Snopes.com items, which were related to 2016 presidential candidates Donald Trump and Hillary Clinton, were actual news or fake news. The articles included the sources of the information, which were: Freedum Junkshun, Your News Wire, Vox, The Associated Press and The Hill. Two of the articles about Hillary Clinton were fake news items, and three of the articles about Donald Trump were true.

Current news articles on political figures were intentionally selected to offer the students a chance to set aside their biases and think critically about the items after taking a survey on the prevalence of misinformation in society. The news quiz came at the end of the survey after students had already been asked about fact-checking sites, the best way to combat fake news, and which news sources they found to be trustworthy.

After completing the quiz, students were asked if they used the Internet to inform their choices and how they determined whether the articles were credible.

Research questions

Four research questions helped to frame this study:
1. What social media platforms and devices are college students using to read and share news items?
2. What factors, such as devices used or how news is shared, contribute to the spread of fake news among college students?
3. Which news sources on social media do students view as trustworthy and does partisan politics influence students' choices?
4. How knowledgeable are students about fake news and methods of detecting it?

RESULTS

Of the students (n=206) who completed the questionnaire, 17% completed the online survey during a class period and 83% completed it outside the classroom. Eighty-six percent of the study participants were between the ages of 18 and 24, 70% were either third-or fourth-year students, and 68% were female. Fifty-seven percent of the students identified as White, 26% as Hispanic, 9% as African American, 5% as multiracial, 2% as being of Asian descent, and 1% did not answer. Table 1 provides a breakdown of the political affiliations.

Table 1. *Political affiliations as stated by students*

Political Party	n	%
Democratic Party	80	39%
None	48	23%
Independent	36	17%
Republican Party	30	15%
Libertarian Party	6	3%
Other	5	2%
Green Party	1	>1%

How students get news

Q. 1 What social media platforms and devices are college students using to read and share news items? Smartphones were the most common device used to access the news. Eighty percent of respondents indicated they commonly access the news with a smartphone, and another 13% said they use a computer. Only 5% of the students said they were likely to see the news on

television, and less than 1% listed newspapers, radio, or a tablet as their news device.

Table 2. *Accessing news*

How are you most likely to access the news?	n	%
Smartphone	164	80%
Computer	27	13%
Television	11	5%
Newspaper	1	<1%
Radio	1	<1%
Tablet	1	<1%
Other	1	<1%

The most common ways students get news are in Table 3. Results show social media (63%) is the dominant news source for college students; followed by online news site (19%), television (10%), and other at (8%).

Table 3. *Most common ways to get the news*

Most common ways to get the news	n	%
Social Media	130	63%
Online News Site	40	19%
Television	20	10%
All other	16	8%

Table 4 provides results and answers research question one. Results indicated social media platforms are predominately used to access the news. Students indicated they were regular users of a variety of platforms on social media with many students using more than one platform daily. Instagram was the most popular platform with 76% of students responding they used it daily, 66% were on Snapchat daily, 60% used Twitter daily, and 56% used Facebook daily. Students were also asked which social media sites they used specifically to access the news, and Twitter and Facebook were cited more often than other sites.

Although the college students in the study did not access traditional news platforms such as television or radio on a regular basis, about half of them did stay aware of the news. Table 5 sheds light on research question 1. While 42% of the students said they shared news with their friends on social media at least two to three times a week, another 21% of the participants said they never shared news on social media.

Table 4. *Accessing news on social media*

Social Media	n	%
Twitter	155	75%
Facebook	97	47%
Snapchat	49	24%
YouTube	42	20%
Instagram	36	17%
Podcast	21	10%
Reddit	20	10%
LinkedIn	4	2%
Tumblr	4	2%
Pinterest	3	1%

Table 5. *Students' frequency of access and sharing news reports*

How often do you access news reports?	n	%
Daily	63	31%
4-6 times a week	44	21%
2-3 times a week	57	28%
Once a week	29	14%
Once a month	7	3%
Never	6	3%
How often do you share news items with your friends on social media?	**n**	**%**
Daily	20	10%
4-6 times a week	17	8%
2-3 times a week	50	24%
Once a week	38	18%
Once a month	37	18%
Never	44	21%

Sharing news items

Q. 2 What factors, such as devices used or how news is shared, contribute to the spread of fake news among college students? Survey responses suggested several answers to research question two. Forty-four percent of students said they probably or definitely had shared a news item after only reading the headline. Although 82% of students said they took note of the news organization publishing the story when viewing the news, 33% of the students also said they had either definitely or probably shared a news story when they did not recognize the news source. The news students share is also likely to have been found through social media platforms with 74% of students indicating they are more likely to find news stories on social media than by visiting a traditional news site.

Table 6. *Read online news*

When you read news online, which of the following items do you typically note?	n	%
News organization	168	82%
Friend shared item	95	46%
Sources quoted	94	46%
Seen story elsewhere	66	32%
Writer's name	36	17%

A far higher number of students acknowledged receiving fake news articles from friends than acknowledged sharing fake news themselves, which may indicate a third-person effect as found in earlier studies (Corbu et al., 2020). Twenty-seven percent said they had shared a story with friends that turned out to be fake news, but 67% said their friends had shared fake news stories with them. Of the students who acknowledged either sending or receiving a fake news story, 55% said they looked the story up on a fact-checking site, 46% said they contacted the friend involved, and 22% did nothing or ignored the story. Some students took more than one action. Of the students who said they had encountered fake news, 38% said they checked it out on a fact-checking site most of the time or always.

Trust and bias

Q. 3 Which news sources on social media do students view as trustworthy and does partisan politics influence students' choices? The students' responses indicated political views may have had an impact on their news choices and trust in various media. In the survey, students were asked if the mainstream media makes up stories about the president and Congress. Overall, students were evenly divided on these questions with 51% saying the mainstream media makes up stories about the president either sometimes or often, and 50% indicating the mainstream media makes up news about the Congress. The students' views divided along political lines with 83% of Republican students saying the media makes up stories about the president compared to 41% of Democrats. Also 73% of Republican students said the media makes up stories about Congress compared to 43% of Democrats. As a comparison, among students who identified as Independents, 39% believed the media often or sometimes makes up stories about the president and 36% said the same about reporting on Congress.

Students were asked to indicate their level of trust in twenty-one traditional news sites, alternative news sites, and sites fact-checking organizations identified as having spread fake news. The news sites were listed by name only along with a scale of 1 to 10 in which 10 was very trustworthy and 1 was not trustworthy, see Table 7. The lowest mean scores were given to three sites that are either non-existent now or listed by Politifact.com as sites publishing misinformation and Breitbart, and the highest mean scores went to *The New York Times*, *The Washington Post* and *The Wall Street Journal*.

Table 7. *Level of trust in news sites*

News Sites	Mean	n
New York Times	7.81	197
Washington Post	7.52	178
Wall Street Journal	7.29	184
National Public Radio	7.10	154
Austin American-Statesman	6.63	147
ABC	6.49	196
CBS	6.44	184
NBC	6.43	179
CNN	6.24	194
Texas Tribune	6.22	137
Huffington Post	6.18	190
San Antonio Express-News	6.17	144
Austin Chronicle	6.13	150
San Marcos Daily Record	6.02	152
Texas Monthly	5.85	150
University Star	5.55	182
FOX	4.62	178
Daily Feed News	4.40	131
365 Us News	4.36	125
Your News Wire	3.12	98
Breitbart	2.89	111

Partisan views appear to have played a role in the results. Republicans were more likely to trust Fox than Democrats and Democrats trusted CNN more than Republicans. The following analyses tested Political Affiliation (i.e., Republican, Democrat, Independent, and None) on students' level of trust in Fox News. Table 8 displays the mean trust score in Fox News by Political Affiliation. A one-way ANOVA indicated a significant difference between political affiliation and trust in Fox news [$F(3, 169) = 8.24$, $p < .0001$].

Table 8. *Trust in Fox News mean scores by political affiliation*

Political Affiliation	Mean	Std Error	N
Republican	6.53	0.52	30
None	5.17	0.41	48
Democratic	4.05	0.35	66
Independent	3.28	0.53	29

Post hoc comparisons (see Table 9) using the Tukey HSD test indicated significant differences between the following affiliations: Republican and Independent, Republican and Democrat, None and Independent, Republican and None, Democrat and None. There was no significant difference between Democrat and Independent affiliation.

Table 9. *Tukey HSD comparisons political affiliation and trust in Fox News*

Comparisons between affiliation		Mean Difference	Std Err Dif	p-Value
Republican	Independent	3.26	0.74	.0001*
Republican	Democratic	2.49	0.62	.0001*
None	Independent	1.89	0.67	.0051*
Republican	None	1.37	0.66	.0396*
None	Democratic	1.12	0.54	.0383*
Democratic	Independent	0.77	0.63	.2241

*A significant mean difference exists between students identifying as Republican and Independent, Republican and Democrat, None and Independent, Republican and None, Democrat and None and their trustworthiness Fox.

Table 10. *Trust in CNN News mean scores by political affiliation*

Political Affiliation	Mean	Std Error	N
Democratic	7.04	0.29	77
None	6.02	0.36	51
Independent	5.84	0.45	32
Republican	5.32	0.49	28

Next, we tested political affiliation (i.e., Republican, Democrat, Independent, and None) on students' level of trust in CNN News. Table 10 displays means trust scores by political affiliation. A one-way ANOVA was conducted to compare political affiliation (i.e., Republican, Democrat, Independent, and None) on students' level of trust in CNN News and indicated a significant difference between political affiliation and trust in CNN news [$F(3, 184) = 4.02$, $p < .0084$].

Post hoc comparisons using the Tukey HSD test indicated a significant difference between Democratic and Republican affiliations and their level of trust of CNN news (see Table 11). There was no significant difference between other affiliations.

Table 11. *Tukey HSD comparison political affiliation and trust in CNN News*

Comparisons between affiliation		Mean Difference	Std Err Dif	p-Value
Democratic	Republican	1.72	0.57	0.01*
Democratic	Independent	1.19	0.54	0.12
Democratic	None	1.02	0.46	0.13
None	Republican	0.69	0.60	0.66
Independent	Republican	0.52	0.66	0.86
None	Independent	0.18	0.58	0.99

*A significant mean difference exists between students identifying as Democrats and Republicans and their trustworthiness CNN.

Detecting fake news

Q. 4 How knowledgeable are students about fake news and methods of detecting it? Eighty-two percent of students said they were either somewhat concerned or very concerned about fake news in the U.S. When students were provided with a list of four popular fact-checking sites, Snopes.com, Politifact.com, Factcheck.org and Politifact.com/Texas, 55% said they had visited one of the sites. Twenty-seven percent of the students said they did not view the sites as biased, but 66% said they were unsure whether the sites are biased or not.

Of the 206 survey participants, 24% correctly identified all five articles from Snopes.com as either fake or actual news, and another 30% correctly identified four out of the five of the articles. The students' responses detailing how they determined which of the five Snopes.com articles were false or true were divided into themed categories. Several themes stood out. Fifty-eight percent of the students who correctly identified at least four of the articles mentioned the publishing news source as a factor while only 24% of students who miscategorized two or more of the articles said the news source played a role in their decision. Other themes in the students' open-ended responses included the sources quoted in the articles, the content of the article, whether it seemed plausible, whether the student had seen the article elsewhere, and

whether the style of writing was professional. These themes illustrated the most common criteria the students considered as they analyzed the news items.

A chi-square test of independence, X^2 (3, $N = 194$) = 24.4, $p = .0001$, see Table 12, indicated a significant difference between political affiliation and ability to detect fake news as measured by a score of 80% or greater. Democrats had the highest percent correct on detecting fake news than any other group, followed by Independent and Non-affiliated voters. Republicans had the lowest percent correct on detecting fake news than any other group. The political nature of the stories, two false stories about the Democratic candidate, and three true stories about the Republican candidate, may have influenced the results.

Table 12. *Contingency table*

Political Affiliation		Quiz		
		<80%	*≥80%*	*Total Responses*
Democratic Party	A	25 31.3%	55 68.8%	80
Independent	B	13 36.1%	23 63.9%	36
No political affiliation	C	27 56.3%	21 43.8%	48
Republican Party	D	24 80.0%	6 20.0%	30

We used Fisher's approach to compute exact p-value for each cell in a contingency table after finding a significant overall chi-squared test. As seen in Table 13, students who identified as Democrats were significantly different than the No Political Affiliation group and Republicans on detecting fake news as measured by quiz score of 80% or better. Independents were significantly different than the Republicans; and the No Political Affiliation group was significantly different than Republicans on detecting fake news as measured by a news quiz score of 80% or better.

Table 13. *Fisher exact pairs p-value*

	AC	AD	BD	CD
<80%	0.0089	0.0000	0.0005	0.0495
≥80%	0.0089	0.0000	0.0005	0.0495

DISCUSSION

In this study, we investigated how undergraduate students taking courses in the school of journalism and mass communication at a regional university in the Southwestern United States interact with social media, consume the news, and determine which news articles to believe. The findings suggest several opportunities for educators to explore as they work to enhance students' media literacy skills. This survey provided insights into the participants' social media habits, how they share news items, and their understanding of the problems presented by fake news. We found the students in the study relied on popular social media platforms and their smartphones to stay aware of the day's news. The survey participants were concerned about the impact fake news has on society and believed their friends were more likely than they were to share fake news articles. As studies of the general population have found (Ralph & Relman, 2018; Taub, 2017, Lazer, et al., 2017), survey participants' political beliefs appeared to influence which news sources they labeled trustworthy. Partisan views also appear to have played a role in which of the five news items taken from Snopes.com participants labeled as fake or real, and whether the students believed the mainstream media fabricated stories about the president and Congress.

The results indicating a belief that the mainstream media makes up stories about political figures are similar to a poll conducted for *Politico Magazine* in 2017 in which 46% of registered voters said the mainstream media fabricated news stories about President Trump with 76% of Republican voters saying stories are made up and only 20% of Democrats believing the media makes up stories (Shepard, 2017). The results showing which news sources students said they trusted were similar to a Knight Foundation and Gallup poll. In the Gallup poll, more Democrats than Republicans viewed Fox News as biased, and more Republicans than Democrats viewed CNN as biased (Ralph & Relman, 2018). National studies show 53% of adults get news from social media either sometimes or often (Shearer & Mitchell, 2021), and 63% of the students in this study indicated they regularly accessed the news through social media. Partisanship appears to have played a role in the results of the news quiz in the survey. Sixty-nine percent of students who identified as Democrats answered at least four of the five questions correctly, compared to 20% of the Republicans. The partisan influences found in this study match findings in the literature. A 2020 Pew Research Center survey

found most Americans in the two major political parties believed fabricated election news was designed to hurt their party. Sixty-nine percent of Republicans expressed the belief that made-up news was "mostly intended" to harm the Republican Party, and 63% of Democrats felt made up news was created to hurt their party (Mitchell et al., 2020, December 15). A growing sense of political bias in the media has given rise to several popular online media bias charts, which some experts advise using with caution since political bias is only one aspect of accurate news coverage (Sheridan, 2021). Concerns about hidden bias in the media, and a belief that the media makes up stories, clearly have the potential to create an environment in which news consumers ignore important facts necessary to make informed decisions in a democracy. These concerns are worthy of additional research.

Some of the students surveyed appeared better equipped to spot fake news than others, which could provide a foundation for further media literacy studies. The study participants indicated a high level of concern about fake news with 82% saying they are somewhat or very concerned about it. A Pew Research Center poll found 64% of Americans were concerned about the confusion caused by fake new stories (Barthel, et al., 2016). While the students indicated some awareness of ways to detect misinformation, 57% of the 30 students who accessed the web while taking the news quiz failed to accurately label all five articles. This failure may indicate the students either did not check all the articles online or did not use credible fact-checking sites.

Two practices likely to increase the spread of misinformation also appeared in many students' responses with 44% of students saying they were likely to have shared a news item after only reading the headline and 33% of students saying they shared news items even though they did not recognize the news source. More students identified their friends as the ones who shared fake news than acknowledged sharing fake news themselves, which may illustrate a third-person effect found in other studies (Jang & Kim, 2017; Corbu et al., 2020). Jang and Kim (2017) also found strong partisan opinions increase the belief that members of other political groups are not as adept at detecting fake news as one's own group. Twenty-seven percent of the students surveyed said they had shared news that turned out to be fake, which is similar to the results of Pew Research polls showing 23% of Americans say they have shared fake news, sometimes knowingly and sometimes not (Barthel et al., 2016). However, 67% of the students said their friends had shared fake news.

Forty-six percent of students who realized they had either shared or read fake news took the time to notify their friends the news was false, which fits with an earlier finding that Twitter users were not likely to correct their errors (Shin et al., 2016).

Bulger and Davison (2018) suggest efforts to teach media literacy should focus on action as well as learning. Students also must be given the information literacy skills to use the internet to ascertain the credibility of news reports (Head et al., 2018). Students who fail to think critically about the news may be overly confident in their abilities to detect it, and efforts to teach information literacy will need to focus on enhancing students' critical thinking skills. Machete et al. (2017) suggest students should be taught professional fact-checkering skills such as using the internet to investigate a news site rather than overly analyzing one article. Digital literacy expert Michael Caulfield proposes shortening the time spent detecting fake news using the SIFT approach, which includes the following steps: "1. Stop. 2. Investigate the source. 3. Find better coverage. 4. Trace claims, quotes and media to the original context" (Warzel, 2021, para. 10).

The suggestions for combating fake news offered by the students in this study fell into several major categories including having social media companies aggressively remove fake news stories, rebutting fake news in traditional media, increased use of fact-checking sites, individuals taking responsibility to research stories before sharing them, using technology to filter out fake news, and developing stronger media literacy and critical thinking programs in schools. Mihailidis and Viotty (2017) suggest teaching media literacy to encourage connectivity, caring for others, local engagement, and civic impact. The survey responses point to the need for more research in several areas, including the ways college students in the survey said they shared news items on social media.

Implications

With the rise in misinformation, "Americans will feel increasingly confused about what is true in politics and commerce and increasingly uncertain about where to turn to find out" (Levi, 2018, p. 262). Misinformation threatens to undermine democracies across the globe by confusing the electorate and lending credibility to totalitarian forces (Khaldarova & Pantti, 2016). Students in this study illustrated the potential of misinformation to undermine trust in the media when half of them said they believe the mainstream media fabricates stories

about the president and Congress. Citizens select their leaders based on their positions on facts, and misinformation endangers democracy by preventing agreement upon what is fact and what is fiction.

This study's results add to the literature related to college students' use of social media to access news and the connection between social media and partisan bias. The college students in the study shared many of the same attributes as the general population related to consuming news on social media, selecting news sources to trust, and being influenced by their partisan views. Partisan biases matching the political polarization in the general U.S. population were clear in the study. Previous studies have illustrated gaps in college students' knowledge in several areas related to media literacy (Dyer, 2017; Powers, 2017; & Stanford Education Group, 2016).

The three most common suggestions offered by students in the study to address the problem of misinformation were classified under the themes of increased use of fact-checking sites, individuals taking responsibility for their actions online, and enhanced media literacy education. Recent studies and efforts to combat the spread of misinformation lend support to the students' suggestions. A study of 1,700 U.S. adults found when the participants were asked to slow down to think about the accuracy of information they were considering sharing on social media, the quality of the information they decided to share improved (Pennycook et al., 2020).

Educators may want to find ways to have healthy, civil dialogue in classrooms as they endeavor to teach information skills to students entrenched in social media and immersed in a politically polarized society. A 2018 study indicates civility can be encouraged through modeling. In the study, participants who first read civil responses were more likely to keep their own comments civil and on-topic than those who first read uncivil comments (Han et al., 2018). Educators should also teach students about confirmation bias and echo chambers so they can take responsibility for their own actions (Gooblar, 2018). A 2018 study of 2,101 youth ages 15-27 found those who self-reported more media literacy learning experiences were far more likely to identify misinformation in political posts than were participants who did not have the training (Kahne & Bowyer, 2017). The quality of the decision-making process of tomorrow's leaders is directly related to their ability to accurately assess whether the information they are basing their decisions upon is trustworthy (McGrew et al., 2017).

Limitations

One limitation of this study is the survey was completed by students in journalism and mass communication classes, who may be more knowledgeable about issues in the news than typical college students. The survey was not provided to a similar number of students in other academic areas. A second limitation involves the variety of methods the students used in completing the survey. Seventeen percent of the students took the survey in a classroom setting, and those students performed better than average on the news quiz with 80% of the 35 classroom students correctly answered at least four questions. A segment of students also was offered extra credit for completing the survey. Students had the option of taking the survey on a computer or on a smartphone.

Students could access the internet during the survey, and 30 students said they conducted internet searches as they answered the news quiz. Students were not asked how many of the five stories they checked against the internet. Finally, there was some overlap of students in the subset of 1,341 who were asked to take the survey. Students were instructed to only take the survey once, but students taking more than one of the journalism or mass communication classes selected for survey would have been offered the survey more than once.

FUTURE RESEARCH AND CONCLUSION

This study offers a broad view of how knowledgeable the college students surveyed were about fake news and how they determined which news articles and outlets to trust online. A follow-up qualitative study could delve into the elements of the students' training having the greatest impact on their ability to spot fake news and identify trustworthy news sources. College students are tomorrow's leaders, and how well educated they are about the media should be a significant concern to all citizens in a democratic society. The college students in the survey appeared to be influenced by some of the same factors as the general population in relation to political polarization and misinformation on social media. The survey participants also indicated a concern about fake news in the U.S.

One common suggestion from students in the survey was the need for individuals to take responsibility for the news they share online. While the spread of misinformation is a societal problem that will likely require a multifaceted solution, society is made up of individuals making daily choices that may have a

positive or negative impact on the problem. Social media offers the opportunity for individuals to participate in the engagement and connectivity suggested by Mihailidis and Viotty (2017). This exploratory study suggests media literacy efforts aimed at young adults may benefit from further research into the ways college students interact with news on social media and the steps they take when they share news with their peers online. Universities are in a unique position to teach digital media and critical thinking skills while encouraging students to appreciate the value of sharing accurate news and information in a democratic society.

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APPENDIX

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This appendix is a reproduction of the survey taken by students in this study

Students, social media and the news

College students, social media and the news. Thank you for considering participating in this survey. Answers to the survey questions will be part of a research project on fake news and social media. For this survey, fake news is defined as articles or photos that are false but designed to appear as real news in order to deceive the reader. Satire is not included in this definition. Please read the following consent statement before proceeding.

This survey addresses important topics and will contribute to a growing body of research. As such, it is important for you to agree that you are only taking this survey once and that you will be thoughtful in your answers. After marking your agreement below, please proceed with the survey. If you disagree, please simply close and exit the survey.

o Agree o Disagree

Q1 Please select the courses you are actively enrolled in this Spring Semester. Select all that apply.

o Advertising
o Digital & Online Media
o Introduction to Mass Communication
o Introduction to Public Relations
o Mass Media & Society
o Media Law & Ethics
o Multimedia Journalism
o Visual Communication
o Management of Electronic Media

Q2 Which course below are you taking this survey in?

o Advertising
o Digital & Online Media
o Introduction to Mass Communication
o Introduction to Public Relations
o Mass Media & Society
o Media Law & Ethics
o Multimedia Journalism
o Visual Communication
o Management of Electronic

Q3 What is your age?

Q4 What is your gender?

o Female
o Male
o Other

Q5 Are you a U.S. citizen?

o Yes
o No

Q6 Please provide your race/ethnicity.

Q7 What year in college are you?

o First year student

o Second year student
o Third year student
o Fourth year student
o Fifth year student

Q8 What is your major course of study?

Q9 Which political party are you affiliated with?
o Democratic Party
o Green Party
o Libertarian Party
o Republican Party
o Independent
o Other
o None

Q10 Please indicate how often you use the following social media platforms.
o Daily
o Multiple times a week
o Once a week
o Once a month
o Rarely
o Never
o Facebook
o Instagram
o LinkedIn
o Pinterest
o Podcast
o Reddit
o Snapchat
o Tumblr
o Twitter
o YouTube
o Other (please name)

Q11 Which social media platforms do you use to keep up with the news? Mark all that apply.
o Facebook
o Instagram
o LinkedIn
o Pinterest
o Podcast
o Reddit
o Snapchat
o Tumblr
o Twitter
o YouTube
o Don't follow news on social media
o Other (please name)

Q12 What would you consider to be the most common way you learn about a news story?
o Newspaper

o Magazine (print)
o Podcast
o Online news site
o Radio
o Social Media
o Television
o Word of mouth
o Don't have one
o Other (please name)

Q13 How are you most likely to access the news?
o Newspaper
o Magazine
o Computer
o Tablet
o Television
o Radio
o Smartphone
o Other (please name)

Q14 What types of news interest you? Mark all that apply.
o Local/State
o National
o World
o Sports
o Political
o Business
o Entertainment
o Campus
o Other (please name)

Q15 How often do you read, listen to or view news reports?
o Daily
o 4-6 times a week
o 2-3 times a week
o Once a week
o Once a month
o Never

Q16 How often do you share news items with your friends on social media?
o Daily
o 4 -6 times a week
o 2-3 times a week
o Once a week
o Once a month
o Never

Q17 What types of news do you typically share? Mark all that apply.
o Campus
o Local/state
o National

o World
o Entertainment
o Political
o Sports
o Business
o Don't share news
o Other (please name)

Q18 When you read news online, which of the following items do you typically note? Check all that apply.
o Writer's name
o Friend who shared item
o News organization
o Sources quoted
o Seen story elsewhere

Q19 How often do you read news items shared by your friends?
o Daily
o 4 - 6 times a week
o 2 - 3 times a week
o Once a week
o Once a month
o Never

Q20 Have you ever shared a news story with others after reading the headline but not the body of the story?
o Definitely yes
o Probably yes
o Not sure
o Probably not
o Definitely not
o Don't share news

Q21 Have you ever shared a news story with other friends when you did not recognize the news source?
o Definitely yes
o Probably yes
o Not sure
o Probably not
o Definitely not
o Don't share news

Q22 Are you more likely to read a news story sent to you by friends who share your political views?
o Definitely yes
o Probably yes
o Not sure
o Probably not
o Definitely not

Q23 Are you more likely to find news stories on social media or by visiting a traditional news organization's web site?
o Social Media
o Traditional news site
o Not sure

Q24 Please select your primary method for accessing news online.
o Facebook
o Twitter
o Blogger/podcast
o Traditional news site
o Snapchat
o Reddit
o Apple news
o Google news
o Email alerts
o YouTube
o Don't access news online
o Other (please name)

Q25 On a scale of 1 to 10, please indicate your level of trust for the news provided by the following organizations with 10 being very trustworthy and 1 being not trustworthy. If for some reason you are not familiar with the organization, leave the slider at O.
o 365 Us News
o ABC
o Austin American Statesman
o Austin Chronicle
o Breitbart
o CBS
o CNN
o Daily Feed News
o FOX
o Huffington Post
o NBC
o New York Times
o National Public Radio
o San Antonio Express News
o San Marcos Daily Record
o Texas Monthly
o Texas Tribune
o University Star
o Washington Post
o Wall Street Journal
o Your News Wire

Q26 Please write in the name of the news source that you consider to be your primary online news source. If you prefer, you may write in up to three news sources. If you can not think of one online news source, please write N/A.

Q27 If you recall seeing a specific fake news story online in the past year, please write a brief description of the story topic here. If not, skip this question and write N/A

Q28 Have your friends ever shared a news story on social media with you that turned out to be fake news?
o Yes
o No
o Not sure

Q29 Have you ever shared a story with your friends that turned out to be fake news?
o Yes
o No
o Not sure

Q30 Once you realized you had shared a fake news story or a friend had shared one with you, did you take any of the following actions? Check ones that apply.
o Ignored it/did nothing
o Contacted friend/informed them
o Looked story up on fact-checking site.
o Not applicable, did not see/share fake news story

Q31 When you see a story you believe is fake news, how often do you take the time to check a fact-checking site to determine whether it is real news?
o Never
o Sometimes
o About half the time
o Most of the time
o Always
o Never seen, N/A

Q32 Please provide the name of your favorite fact-checking online sites. If you cannot think of one, indicate that by writing N/A.

Q33 Do you believe the mainstream media that covers Washington, D.C. makes up stories about the president of the United States?
o Yes, often
o Yes, sometimes
o No, not intentionally
o No, never
o Not sure

Q34 Do you believe the mainstream media that covers Washington, D.C. makes up stories about members of Congress?
o Yes, often
o Yes, sometimes
o No, not intentionally
o No, never
o Not sure

Q35 How concerned are you about fake news in the U.S.?
o Very concerned
o Somewhat concerned
o Not sure
o Somewhat unconcerned
o Not concerned

Q36 Which of these sites have you visited in the past to check out a story?
o FactCheck.org
o Politifact.com
o Politifact/Texas.com

o Snopes.com
o None of these
o Other

Q37 Do you believe that the fact-checking sites listed in the previous question are biased?
o Yes, biased conservative
o Yes, biased liberal
o No, not biased
o Not sure

Q38 Have you noticed Facebook's efforts to address concerns about fake news?
o Yes
o No

Q39 Please rate the effectiveness of Facebook's efforts to address concerns about fake news in your view.
o Very effective
o Somewhat effective
o Not sure
o Somewhat ineffective
o Very ineffective
o Not noticed N/A

Q40 From your experience with fake news, what do you think is the best approach to combat its effects?

Q41 Please name one to three of the most common news organizations that you rely upon for news in any format. If you don't have any, indicate that by writing N/A.

Q42 Fake or Real?
The next five questions involve news articles that have been circulated heavily online and were listed on Snopes.com. The fact-checking website list some of them as fake news and some of them as actual news. After reading the headline and excerpt from the article, please indicate whether you believe the story is fake or real.

Q43 Is this excerpt from an article listed on Snopes.com fake news or an actual news story?
Two of Hillary Clinton's employees arrested for destroying evidence "On Monday afternoon, FBI and local law enforcement surrounded a Clinton Foundation office in Ettleboro, North Dakota. Hillary Clinton was ordered by Congress to preserve all records related to her sale of Uranium to Russia when she was Secretary of State and law enforcement received a tip that some of her underlings were not obeying that order. Breitbart reports: Authorities arrested Jon Crawford, 23 and Elizabeth Palmer, 27 for allegedly tampering with evidence. The FBI received a tip from within the Clinton Foundation office that some staffers were shredding documents and that two hard drives had been taken from the office in defiance of the order from the Congressional Committee." Source: Freedum Junkshun.
o Fake news
o Actual news story

Q44 Is this excerpt from an article listed on Snopes.com fake news or an actual news story?
Actor advocates jailing former presidential candidate "The best way to restore public faith in government institutions is to "send Hillary to prison", according to Hollywood icon Morgan Freeman, who warns that unless the former First Lady's crimes are seen to be punished, "everyday Americans will forever know, deep down, that there is one law for those with money and power, and another for the rest of us." "Hillary should be in jail for her unlawful deeds and President Trump should absolutely, absolutely make sure this happens to send the very strong message that no-one, and I mean no-one, is above the law in the United States of America," Morgan Freeman said in New York while promoting National Geographic's new docuseries The Story of Us." Source: Your News Wire

o Fake news
o Actual news story

Q45 Is the excerpt from an article listed on Snopes.com fake news or an actual news story?
The White House's new climate report contradicts everything Trump is doing on climate "A new government report on the source of climate change has made it past the Trump White House unscathed with forceful statements about humanity's role in rising temperatures and their severe threat to the United States. "This assessment concludes, based on extensive evidence, that it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century," according to the Climate Science Special Report. "For the warming over the last century, there is no convincing alternative explanation supported by the extent of the observational evidence." Source: Vox
o Fake news
o Actual news story

Q46 Is the excerpt from an article listed on Snopes.com fake news or an actual news story?
Trump proposal would end heating aid for low-income Americans "PORTLAND, Maine (AP) — The summer air is sizzling as the Fourth of July approaches, yet 86-year-old Richard Perkins already worries about how he's going to stay warm this winter. President Donald Trump has proposed eliminating heating aid for low-income Americans, claiming it's no longer necessary and rife with fraud. People needn't worry about being left in the cold, he says, because utilities cannot cut off customers in the dead of winter." Source: Associated Press
o Fake news
o Actual news story

Q47 Is the excerpt from an article listed on Snopes.com fake news or an actual news story?
Woman fired from her job after flipping off Trump's motorcade "A woman was fired from her job after a photo of her flipping off President Trump's motorcade went viral. The Huffington Post reported the woman, Juli Briskman, was fired from her job at government contractor Akima LLC. The photo was taken by a White House photographer as the president was leaving his golf course in Sterling, Va." Source: The Hill
o Fake news
o Actual news story

Q48 Did you use the Internet to help with your answers to questions 46 through 50 (sample fake and real articles)?
o Yes
o No

Q49 Please list some of the factors you considered in determining whether the five sample articles were real or fake news?

Q50 Has this survey raised any questions, concerns or suggestions that you would like to pass on to researchers? If so, please write a brief note below expressing those thoughts. If not, write N/A.

Thank you for participating in this survey
If you wish to participate in a random drawing for a chance to win one of four $25 gift cards, please enter your name and email address below. This information will not be connected to your survey results to ensure your responses remain anonymous.