



Examining the Roles of Multi-Platform Social Media News Use, Engagement, and Connections with News Organizations and Journalists on News Literacy: A Comparison of Seven Democracies

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ABSTRACT

The proliferation of misinformation in social media has raised concerns on the veracity of news that citizens consume. Recent scholarship has therefore emphasized the importance of news literacy as higher levels imply greater competence in navigating the streams of information in the social media space. Drawing from subsamples of respondents who use social media for news in seven democracies (UK, Germany, Denmark, Spain, Ireland, Norway, and the US, $N=6774$), this comparative analysis examines the dynamics of social media news platform use that influence news literacy. After controlling for demographics, news interest and news use frequency, analyses show that social media news engagement and connections to news organizations and journalists exhibited both positive direct and indirect relationships with news literacy. Multi-platform use of social media for news was also related to engagement, but in five countries the relationship with news literacy was negative.

KEYWORDS

Social media; news literacy; news engagement; multi-platform news; comparative communication

The past decade has seen an exponential global rise of people adopting and integrating social media into their everyday lives. Facebook, for example, saw its monthly active users worldwide increase from 100 million in 2008 to 2.6 billion in 2019 (Statista 2020). Social media platforms were not originally conceived to be channels of news consumption, but news media organizations have taken advantage of their affordances to disseminate news and create opportunities for audiences to engage with journalists and media organizations (Hermida 2013; Boczek and Koppers 2020). Indeed, for many countries social media can no longer be considered as an “emerging news source” (Weeks and Holbert 2013) nor having “a relatively limited role as sources of news” (Nielsen and Schröder 2014). As shown in Table 1, of the seven democracies examined in this study, social media has become an important source of news for a substantial number of citizens.

Concurrent with the popularity of social media platforms as news sources are increased concerns about the proliferation of online misinformation that makes it

Table 1. Sources of news in seven democracies in this study.

	2019 Online (including social media)	2019 Television	2019 Printed newspapers	2019 Social media
UK	75%	71%	36%	40%
Germany	68%	72%	34%	34%
Denmark	80%	65%	22%	45%
Norway	84%	64%	27%	46%
Ireland	84%	67%	37%	50%
USA	72%	58%	19%	46%
Spain	80%	72%	40%	53%

Source: 2019 Reuters Institute Digital News Report (Newman et al. 2019).

more difficult for users to distinguish between credible and dubious news (Lazer et al. 2018) that can undermine democratic functioning (Bennett and Livingston 2018). Recent scholarship and media literacy initiatives have emphasized the role of *news literacy*, such that citizens are able to “seek useful and accurate information so that they may make informed decisions related to the political and social structures of society” (Craft, Ashley, and Maksl 2017, 389). Normatively, news literacy aligns with the notion of the “informed citizen” who is well-versed in public affairs and is an active participant in democracy (Delli Carpini 2000). More practically, it means that news consumers can navigate the daily streams of news content, judge their relative veracity, and make informed decisions that affect their lives and those of others. Being news literate is desirable because such individuals are less likely to endorse conspiracy theories (Craft, Ashley, and Maksl 2017) and feel more competent to understand politics (Tully and Vraga 2018).

The body of work on social media news and misinformation is growing (e.g., Bode and Vraga 2015), but there is relatively less work in the literature exploring the relationship between social media news use and news literacy (e.g., Tully, Vraga, and Bode 2020; Vraga and Tully 2019). This is an important undertaking given that news literacy is often espoused as a necessary competence to protect oneself from fake news and misinformation on social media. We examine this relationship among seven democratic countries using data from the 2018 Reuters Institute Digital News Report (Newman et al. 2018). More specifically, we focus on three pertinent aspects of social media news that may engender news literacy. First, online news consumers nowadays have more *opportunities* to access news from more than one social media platform (Shearer and Gottfried 2017). In the US for example 13% of citizens got their news from two or more social media platforms in 2013. Four years later the figure was 26%. Second, social media facilitates greater behavioural *engagement* with news, such as through sharing and commenting on news. Third, users can “friend” or “follow” news organizations and journalists on social media, which may entail *exposure* to more professional content. Our findings suggest that each aspect consistently influences news literacy across the samples, but in different ways.

Literature Review

News Exposure and News Literacy

News literacy is a type of media literacy, which broadly emphasizes individuals’ ability to “decode, evaluate, analyze and produce both print and electronic media”

(Aufderheide 1993, 1). The earliest media literacy research and education initiatives focussed on print and television, but the increasingly complex media and information environments facilitated by the Internet have lent focus to more specific literacies. Examples include digital literacy that sought to address the digital skills divide (Hargittai 2009) as well as social media literacy and its importance for alleviating the effects of harmful content on social media (Livingstone 2014). Similarly, the importance of news literacy has gained traction in recent years due to increasingly information-rich environments facilitated by social media that makes it more difficult for people to distinguish the relative quality and veracity of the news they consume (Vraga et al. 2021, 5).

More formally, news literacy is defined as “knowledge of the personal and social processes by which news is produced, distributed, and consumed, and skills that allow users some control over these processes” (Vraga et al. 2021, 5). Someone who is news literate thus understands and is aware of how news is produced and by whom; and possesses the critical awareness and capacity to judge the relative veracity of the news that one encounters. Because news literacy is normatively desirable, the body of research has by and large focussed on its consequences. Research has found that news literacy is related to greater current affairs knowledge (Ashley, Maksl, and Craft 2017), lower belief in conspiracy theories (Craft, Ashley, and Maksl 2017), less online news engagement (Alam, Cho, and Kim 2018), greater scepticism of information shared on social media (Vraga and Tully 2019), and greater ability to identify fabricated news headlines (Amazeen and Bucy 2019). Recent studies also showed that news literacy interventions can influence peoples’ perceptions of information credibility on social media (Tully, Vraga, and Bode 2020; Hameleers 2020). Compared to this body of work, much less attention has been paid to the antecedents of news literacy beyond studies that examined the effectiveness of formal news literacy curricula used in educational settings (e.g., Fleming 2014). If news literacy has normatively desirable outcomes for democracy, it makes sense to also consider how social media can engender news literacy because the relationship is reciprocal (Vraga and Tully 2019). By emphasizing the antecedents of news literacy, this study provides a more complete picture of the relationship.

Learning from the news media about how news is produced and by whom is akin to other learning processes, such as learning about politics (e.g., de Vreese and Boomgaarden 2006). It is more likely to occur when one has opportunities to access the news, the content is informative, and one is motivated to engage with the content (Shehata and Strömbäck 2021). Traditional news media such as newspapers and television follow what Klinger and Svensson (2015) called the “mass media logic”. Editors and journalists were the gatekeepers of news where it is curated, fact-checked and disseminated by professionals who are guided by established journalistic norms, values, and routines. Students taking media or news literacy classes may have a more systematic and formal understanding of the dynamics of news production, such as recognizing the economic relationship between television commercials and news production, and the purpose of interviewing subject experts to provide context and opinion about the news, among others. For general audiences however such knowledge is likely to be acquired passively through a longer process of media socialization

(Amazeen and Bucy 2019) where news knowledge accumulates over time based on their interactions and experiences with the news. These knowledge structures (i.e., “sets of organized information in a person’s memory,” p. 33) in turn help audiences make sense of the news they come across (Potter 2004).

Social Media News: Multiple Platforms and Engagement

In contrast to the “mass media logic” is the “network media logic” in which news on social media operates (Klinger and Svensson 2015; Shehata and Strömbäck 2021). While there is some overlap between the two logics there are certain characteristics of social media news that have implications for news literacy. First, in terms of consumption users’ exposure to news on social media are often incidental to their initial purposes for accessing the platforms. For example, users may unintentionally see short news previews shared by their friends or contacts while just browsing their feeds or messages for latest updates (Fletcher and Nielsen 2018). Only by taking the additional step of acting on the link do users engage with the actual news content. Second, in terms of production and distribution, the news content is no longer exclusively provided by professional news organizations and journalists, but also other entities and sources of unknown or even questionable qualification that are recommended and endorsed by peers in the network. It is perhaps for these reasons: the passive nature of consumption and the questionable veracity and quality of news content on social media, that studies on social media and political learning have tended to find negligible to weak relationships (Dimitrova et al. 2014; Bode 2016; Shehata and Strömbäck 2021).

Another characteristic of the network logic is that users are exposed to news based on their own interests and preferences. Such opportunities for news exposure should increase as one uses more than one social media platform for news. Indeed, people nowadays are multi-platform news consumers as they use different technologies and channels to access and consume news (Diehl, Barnidge, and Gil de Zúñiga 2019). In the US for example most users of Facebook for news also use other social media for news (Shearer and Gottfried 2017). We therefore propose an initial hypothesis that greater opportunities will lead to more engagement:

H1: Multi-platform social media news use is positively related to greater engagement.

The use of multiple social media platforms for news may influence news literacy in contrasting two ways. On one hand, it creates more opportunities for news exposure as proposed by H1 by expanding people’s knowledge structures related to news production and distribution. Granted, there may be some redundancy of news content, but the logics and architectures of two popular platforms such as Facebook and YouTube can be very different in terms of structure (e.g., recommendations from friends .v. recommendations from YouTube) and news format (text/visuals .v. video), which may provide diverse experiences and learning opportunities. Moreover, people can be embedded in overlapping yet functionally distinctive networks on various platforms. An individual may use WhatsApp for close tie communications, Facebook for weaker ties, and LinkedIn for professional ties. Thus, greater platform diversity can increase incidental exposure to news content through different formats. It is even possible that a user may get conflicting or contradictory news on the same topic or issue

from two different platforms. So, seeing how a topic or issue is addressed differently by different media outlets could encourage individuals to think more carefully about how the original news content was produced and by whom. Indeed, interviews with news consumers showed that such a strategy of “triangulation” is a way for them to assess the veracity of news they receive (Wagner and Boczkowski 2019).

On the other hand, the abundance of news from different platforms can create “news content surplus and overload” (Holton and Chyi 2012). Information processing theories assert that humans have finite mental capacities to attend to and process information (Pentina and Tarafdar 2014). Encountering multiple streams of news from social media also demands greater attention, which is a scarce commodity (Mylylahti 2020). Collectively, these may impede the ability to acquire and internalize knowledge to memory. Users may engage more superficially with the news and use their cognitive resources to scan and sort the news rather than attend to and internalize the actual news content. With these contrasting possibilities, we raise the following research question:

RQ1: Is the relationship between multi-platform social media news use and news literacy positive or negative?

Social media platforms provide many opportunities for news consumption. However, whether people commit new information to memory and then to their knowledge structures depends on the extent they attend to the content, think about it, and then do something with it. Information processing is important because it involves the “general act of movement or manipulation of information in memory” (Eveland 2002, 28). It aligns with Potter’s (2004) cognitive approach to developing media literacy, in which he argued that raising awareness of media industries and how messages are produced is just the first step towards media literacy. Actual learning only occurs through cognition (e.g., filtering, meaning matching, and meaning construction) and then behaviour. Information processing models in the field have operationalized cognition in different ways, including “elaborative processing” (Eveland 2001), reasoning”, (Cho et al. 2009) and “political discussion” (Chan, Chen, and Lee 2017), among others. While they are conceptually different measures, they all share the assumption that mental effort is necessary for news effects to occur. Similarly, commenting on and sharing social media posts entail cognitive engagement because of possible sender effects (Pingree 2007). Users may have to think about what they share and write on social media because of possible negative social repercussions if they unknowingly share fake news (Duffy, Tandoc, and Ling 2020). Therefore, there is greater incentive for those who engage with social media news to know more about the processes of news production and what constitutes high quality and reliable news before commenting on or sharing it. Thus, the following hypothesis is raised:

H2: Social media news engagement is positively related to news literacy.

Connections to News Organizations and Journalists through Social Media

An abundance of information on social media means that users have to adopt a variety of filtering strategies to manage and compartmentalize their social media feeds so that they only receive content that is personally relevant and important to them

(Pentina and Tarafdar 2014). Recognizing that they are no longer the gatekeepers of news in the ever-evolving news media environment, news organizations and journalists have long sought to utilize the structural affordances of social media to cultivate connections with users so as to drive attention and traffic to their news content (Hermida et al. 2012). These developments have fundamentally altered the news consumer/provider relationship and the ways in which news organizations produce and disseminate news. As Boczek and Koppers (2020) pointed out in their study of newsrooms' use of WhatsApp channels to disseminate news: "audience engagement is not a traditional pillar of journalism". Yet, many journalists nowadays make efforts to package and brand themselves as news hubs and opinion leaders on social media so as to develop connections and interact with users as well as increase their "market value" (Brems et al. 2017).

Of course, these connections also benefit users because they often rely on source cues to determine whether they could trust the news they receive and judge if it is credible. Research has demonstrated the importance of social recommendation cues, such that recommendation from "friends" are more influential on users' news selection and attention than content cues (Messing and Westwood 2014). More specific research on Facebook has shown that users are more likely to rate news articles as more credible when they are shared by news organizations compared with their own friends (Tandoc 2019), and they are more likely to engage in social media news and trust the news outlet if it was disseminated by a perceived opinion leader (Turcotte et al. 2015). Interviews with news consumers also showed that they often rely on specific social media connections to assess the veracity and quality of news they receive (Wagner and Boczkowski 2019). Weeks and Holbert (2013) further found that connections to journalists and news organizations were an important moderator of the reception/dissemination relationship, such that those with such connections were more likely to share the news they come across on social media to others. Overall, the accumulated evidence suggests that connections to news organizations and journalists play important roles to help users judge overall news quality and veracity, which then prompts further engagement with the news. Therefore, the following hypothesis is proposed:

H3: Connections to (a) news organizations and (b) journalists on social media is positively related to news engagement.

Such connections can also engender news literacy. All things being equal, users who like or follow news organizations and journalists are more likely to be exposed to high quality news content compared to those with no connections. Their Facebook feeds for example will have more news posts from news organizations and journalists that are interspersed with posts from friends and advertisers. This is because the algorithm that determines what appears on the feed prioritizes existing relationships and previous user behaviours (DeVito 2017).

Formal news literacy curricula in educational settings emphasize among other things the knowledge of what is journalism, what journalists do, and the ability to recognize what is news and what is opinion (Fleming 2014). Of course, a typical social media user will not learn these in a systematic way like in formal media or news literacy programs. But some form of passive learning is possible. For example, a study of journalists' tweets showed that a number of them make efforts to describe and

explain the process of how news is produced (i.e., “disclosure transparency”) (Hedman 2016). Such connections can also serve the role of fact checkers (Mena 2019) and educate users how to recognize and understand how misinformation and fake news are produced. These connections can thus engender a diverse set of knowledge structures that engender news literacy and to some extent bridge the mass media and network media logics. Based on these arguments, the final hypothesis is proposed:

H4: Connections to (a) news organizations and (b) journalists on social media is positively related to news literacy.

The Role of Media System

While the seven countries under examination in this study are considered developed democracies with high degrees of political rights, civil liberties and press freedom (Freedom House 2020), they also represent different media systems that may shape the nature and scope of news differently in the social media space. Therefore, it is worthwhile to examine the possible role of media system in the relationship between social media news and news literacy. Guidance is drawn from the media systems typology of Brüggemann et al. (2014), which is an extension of Hallin and Mancini (2004) classic typology. The updated typology categorizes four types of media systems based on the five dimensions of political parallelism, journalistic professionalism, public broadcasting, ownership regulation, and press subsidies. Accordingly, Denmark and Norway belong to the “Northern” type, which is characterized by high degrees of journalistic professionalism and press subsidies, strong public broadcasting and low political parallelism. Germany and the UK belong to the “Central” type, which also has strong public broadcasting, but low levels of press subsidies and high political parallelism. The US and Ireland belong to the “Western” type, which have high journalistic professionalism and political parallelism. Finally, Spain belongs to the “Southern” type, which has high political parallelism, low journalistic professionalism, and the least inclusive media market. Preliminary examination of the role of media systems may yield two possible insights. At one end, it is possible that the relationships proposed previously are invariant across countries regardless of media system. At the other end, the pattern of findings may differ according to media system because of certain characteristics of the media system. With these possibilities in mind, the following exploratory research question is raised:

RQ2: Will the pattern of results be consistent or different among the seven countries?

Method

Sampling

Data for this study was obtained from multi-country surveys conducted by YouGov in partnership with the Reuters Institute for the Study of Journalism at the University of Oxford between January and February, 2018 (Newman et al. 2018). Respondents from nine countries completed online surveys in their native language administered by YouGov through voluntary opt-in online panels, which had pre-assigned demographic

quotas that aim to match the available census/demographic data of each country.¹ Since these were online panels, the samples can only be considered representative of the general online population of each country rather than the general population. Moreover, as this study is focussed on individuals who use social media for news, only respondents who selected “social media” to the question: “Which, if any, of the following have you used in the last week as a source of news? Please select all that apply” were included in the study. All descriptive statistics of demographics and study variables for the seven countries are summarized in Appendix.

Key Variables

Multi-Platform Social Media News Use

The top eight most frequently used social media platforms used for news were first identified for each country based on respondent data. For example, the most popular in the U.S. was Facebook (63%), followed by YouTube (25.9%), Twitter (22.3%), Facebook Messenger (11.3%), Instagram (6.8%) Snapchat (6.2%), WhatsApp (3.6%) and Pinterest (3.3%). Respondents from each country answered the following question about their sources of news from social media: “Which, if any, of the following have you used for finding, reading, watching, sharing or discussing news in the last week?” Each answer that included the top eight social media sites for that country was combined to form a cumulative index of social media news platform diversity. The mean number of platforms ranged from 0.9 for Denmark to 1.8 for Spain.²

Connections to News Organizations and Journalists

Respondents answered the following question: “When accessing news through social media like Facebook, YouTube or Twitter, have you subscribed to or followed any of the following?” (Examples varied according to country). Among the choices were “a news organization” and “a journalist”. Connections to news organizations ranged from 16% of the sample for Norway and 33% for Spain. Connections to journalists ranged from 10% for Norway to 22% for the U.S.

News Engagement on Social Media

Following previous research using Reuters data (Chan, Chen, and Lee 2019), respondents were asked if they have engaged in the following activities on social media: 1) Rate, like or favourite a news story; 2) Comment on a news story in a social network (e.g., Facebook or Twitter); 3) Share a news story via a social network (e.g., Facebook, Twitter, LinkedIn); 4) Share a news story via an instant messenger (e.g., WhatsApp, Facebook Messenger); 5) Post or send a news-related picture or video to a social network site; 6) Vote in an online poll via a news site or social network; and 7) Talk online with friends and colleagues about a news story (e.g., by email, social media, messaging app). Affirmative answers were combined to form an index of social media news engagement. The means ranged from 1.1 for Denmark to 2.4 for the Spain.

News Literacy

Respondents were asked a series of multiple-choice questions on the news making process: 1) Which of the following news outlets does NOT depend primarily on advertising for financial support? (i.e., BBC for the UK sample); 2) Which of the following is typically responsible for writing a press release? (i.e., a spokesperson for an organization); 3) How are most of the individual decisions about what news stories to show people on Facebook made? (i.e., by computer analysis of what stories might interest you); 4) Which of the following best describes the financial performance of most newspaper websites and apps? (i.e., most of them make a loss). Questions 1 and two were adapted from Maksl, Ashley, and Craft (2015). All answer choices were adjusted according to the local country context. Correct answers were combined to form an index of news literacy. The means ranged from 2.1 for Ireland and Spain to 2.7 for Denmark.

Control Variables

Frequency of News Consumption

Respondents answered from 1 = “Never” to 10 = “More than 10 times a day” to the question: “Typically, how often do you access news? By news we mean national, international, regional/local news and other topical events accessed via any platform (radio, TV, newspaper or online)”. The mean ranged from 7.3 for Canada to 7.9 for Germany.

Interest in General News

Respondents answered from 1 = “Not at all interested” to 5 = “Extremely interested” to the question: “How interested, if at all, would you say you are in news?” The mean ranged from 3.6 for Denmark to 4.2 for Spain.

Demographics

Standard demographic data were collected for all study samples; including gender (1 = Male, 2 = Female), age (range = 18-94), household income (1 = Low, 2 = Medium, 3 = High) and highest level of education (1 = Did not/don't expect to complete secondary/high school, 2 = Completed/expected to complete secondary/high school, 3 = Completed/expected to complete a professional qualification, 4 = Completed/expected to complete a Bachelor's degree or similar, 5 = Completed/expected to complete a Masters or Doctoral degree).

Results

Social Media Predictors of News Engagement

We first ran prerequisite checks that the statistical assumptions of the variables have been met (e.g., checking for outliers and equal variance etc.). Then ordinary least squares (OLS) regression analyses were performed using IBM SPSS Statistics 25 for each country to examine how the models predicted social media news engagement. The first block of each model comprised demographics (gender, age, education, income) as well as news use frequency and interest in general news. The second block

Table 2. Regression models predicting social media news engagement.

	UK	Germany	Denmark	Norway	Ireland	USA	Spain
<i>Model</i>							
<i>F</i>	15.969	14.807	11.758	17.692	17.713	41.356	24.377
<i>df</i>	9,559	9,486	9,577	9,740	9,835	9,861	9,110
<i>p</i>	.001	.001	.001	.001	.001	.001	.001
<i>Controls</i>							
Gender (Female)	-.158	-.109	-.096	.062	.117	-.034	.102
Age	.008	.011*	.009*	.011**	.003	.018***	.017***
Education	.057	.101	.081	.043	.157***	.178***	.095
Income	-.099	.127	-.039	-.218*	.024	-.022	-.029
News frequency	.014	.112	.033	.102*	.142***	.122**	.126*
General news interest	.573***	.398***	.327***	.418***	.323***	.458***	.262**
R ²	.096	.097	.078	.090	.085	.159	.042
<i>Social media</i>							
Multi-platform news	.178*	.405***	.206***	.243***	.268***	.319***	.322***
Connections to news organizations	.649***	.443**	.283*	.401**	.314*	.842***	.640***
Connections to journalists	.844***	.555**	.767***	.759***	.517***	.759***	.695***
ΔR ²	.108	.119	.077	.087	.076	.143	.124
Final R ²	.205	.216	.155	.177	.160	.302	.166
N	568	492	586	749	844	870	1111

Notes. Figures are unstandardized beta coefficients.

*** $p < .001$; ** $p < .01$; * $p < .05$.

comprised multi-platform social media news use, connections to news organizations, and connections to journalists. All the models were statistically significant at $p < .001$ (see Table 2). Of the first block of control variables, general news interest predicted engagement across all samples. Of the second block of social media variables, the use of multiple social media platforms for news, connections to news organizations, and connections to journalists were all positively related to social media news engagement. Thus, hypotheses 1, 3a, and 3b were supported.

Social Media Predictors of News Literacy

We ran the same OLS regression analyses to examine how the models predicted news literacy. The same blocks of variables were entered into the models with the addition of social media news engagement that was entered into the second block. All the models were statistically significant at $p < .001$ (see Table 3). Some similar patterns of findings across the seven countries can be observed. Education positively predicted news literacy in all countries and being male predicted news literacy in six countries though in Norway being female predicted news literacy. News use frequency also predicted news literacy across the samples, except for Spain. In terms of the relationship between multi-platform social media news use and news literacy (RQ1), results showed that the relationship was significantly negative for all countries, except for Denmark and Norway (i.e., the 'Northern' media systems). Social media news engagement was positively related to news literacy in all samples, thus supporting H2. Connections to news organizations were positively related to news literacy for all samples except the UK and Norway while connections to journalists were positively related for only the UK, Denmark, and US samples. Thus, hypotheses 4a and 4b were only partially supported.

Table 3. Regression models predicting news literacy.

	UK	Germany	Denmark	Norway	Ireland	USA	Spain
<i>Model</i>							
<i>F</i>	15.343	8.315	13.016	10.474	8.108	22.154	9.448
<i>df</i>	10, 558	10, 482	10, 576	10, 739	10, 834	10, 860	10, 110
<i>p</i>	.001	.001	.001	.001	.001	.001	.001
<i>Controls</i>							
Gender (Female)	-.342***	-.266**	-.406***	.185**	-.217**	-.090	-.133*
Age	-.004	-.011***	-.007**	.000	-.001	.002	-.003
Education	.213***	.144***	.224***	.152***	.128***	.209***	.072**
Income	-.083	.085	-.046	.090	.025	.120*	.119**
News frequency	.104***	.076#	.068*	.087**	.053*	.065*	.034
General news interest	.025	-.055	.101*	.017	-.050	.107*	.066
<i>R</i> ²	.157	.095	.180	.074	.064	.127	.038
<i>Social media</i>							
Multi-platform news	-.110*	-.121**	-.053	-.034	-.057*	-.069*	-.070**
News engagement	.087***	.092**	.066*	.138***	.069***	.097***	.069***
Connections to news organizations	.107	.334**	.213*	.144	.162*	.201*	.207***
Connections to journalists	.263*	-.009	.264*	.025	.097	.366***	.053
ΔR^2	.058	.052	.041	.050	.024	.078	.041
Final <i>R</i> ²	.216	.147	.221	.124	.089	.205	.079
<i>N</i>	568	492	586	747	844	870	1111

Notes. Figures are unstandardized beta coefficients.

****p* < .001; ***p* < .01; **p* < .05.

Table 4. Direct and indirect pathways from connections to news organizations and journalists to news literacy through social media news engagement.

	UK	Germany	Denmark	Norway	Ireland	USA	Spain
<i>Connections to news organizations</i>							
Direct effect	.107	.334**	.213*	.144	.162*	.201*	.207***
Indirect effect through engagement	.056***	.041*	.019*	.056**	.022*	.082***	.044***
<i>Connections to journalists</i>							
Direct effect	.263*	-.009	.264*	.025	.097	.366***	.053
Indirect effect through engagement	.073***	.051*	.051**	.105***	.036**	.074***	.048***

Notes. Figures are unstandardized beta coefficients.

****p* < .001; ***p* < .01; **p* < .05.

Same variables reported in the previous tables were entered into the mediation models as controls.

Post-Hoc Mediation Analyses

Given the consistent findings across the samples showing that connections to news organizations and journalists were positively related to social media news engagement (Table 2), which in turn was positively related to news literacy (Table 3), we ran additional mediation analyses to test the indirect pathways from connections to news literacy through engagement. We ran two series of OLS regression models using model four of the PROCESS macro as we were testing simple mediation models (Hayes 2018). One series of models had connections to news organizations (X_1) as the independent variable and the other series has connections to journalists as the independent variable (X_2). Social media news engagement served as the mediator (M) and news literacy as the dependent variable (Y). The same controls as previous models were included. Table 4 summarizes the results of the direct and indirect paths. They showed

that in all samples social media news engagement significantly mediated the relationship between connections to news organizations/journalists and news literacy. In all, the pattern of results was generally similar across the seven countries (RQ2). Implications of the findings are discussed next.

Discussion

With more people around the world getting their news from social media, there are legitimate concerns regarding the possible spreading and effects of misinformation that purport to be legitimate and its possible repercussions on elections and democracy. Thus, media education scholars in recent years have emphasized the need for citizens to be news literate in order to understand how news is produced and competently assess the veracity of news they come across (Vraga et al. 2021). This is especially important in the social media space where misinformation from suspect sources with nefarious agendas can potentially cascade across social networks in a short period of time and lead to undesirable outcomes. Therefore, this study examined the relationship between three aspects of social media news use and news literacy: the use of social media multiple-platforms for news, social media news engagement, and connections with news organization and journalists.

The findings overall paint a rather positive picture, but also a minor cause for concern. General news use frequency, use of multiple platforms for news, and connections with news organizations and journalists positively predicted social media news engagement across all samples. This provides strong evidence for the argument that the use of multiple platforms and connections engenders further opportunities for engagement with the news. It also provides cross-national confirmation of previous findings showing the positive relationship between ‘friending’ journalists on social media and subsequent news engagement (Weeks and Holbert 2013). Yet, as Bode (2016) also notes, social media only provides “opportunities for learning”. Ultimately, it is up to individual users to have the necessary motivations and skills to engage with and learn about the news to develop news literacy (Vraga et al. 2021; Potter 2004). Thus, the negative direct relationship between social media news platform diversity and news literacy can be a cause for concern. This suggests that those people who use multiple social media platforms for news but have no links to public actors and do not engage with news have lower levels of news literacy. These users may be the ones more susceptible to misinformation from incidental exposure to news. For example, research of US youths showed that over half are “news avoiders” who do not engage in many types of news, offline or online (Edgerly et al. 2018). These were also the heaviest users of social media so they may be exposed to more misinformation and fake news. It is thus important for researchers and media educators to further examine and propose educational or public initiatives that promote greater news engagement on social media.

The roles of social media connections to news organizations and journalists are far less equivocal. Not only do these connections promote greater engagement with the news but also engender greater news literacy. Previous research has highlighted the challenges and tensions for newsrooms in implementing social media strategies to

reach their audiences (e.g., Sacco and Bossio 2017). Yet, from the perspective of news consumers, their connections and relationships with news professionals on social media provide important source and credibility cues for assessing the veracity and trustworthiness of news (Wagner and Boczkowski 2019). Of course, it is unlikely that news organizations and journalists use the social media space for purely altruistic purposes to educate their audiences. Yet it is reasonable to assume that users connected to news organizations and journalists will over time develop a greater understanding of the dynamics of news production and dissemination compared to those who are not. By providing opportunities for engagement as well as learning of how the news operates, news organizations and journalists play important normative roles in the social media space to engender both news literacy and digital media literacy that provides the necessary skills for citizens to participate in democracy (Mihailidis and Thevenin 2013).

A further strength and contribution of the study is that the findings were generally consistent across the seven countries, which provides greater external validity to the findings. Interestingly, two countries (Denmark and Norway) did not exhibit a significant negative relationship between multi-platform social media news and news literacy. Both belong to the “Northern” media system that are characterized by high degrees of journalistic professionalism, strong public broadcasting, and low political parallelism (Brüggemann et al. 2014). Therefore, it is possible that these characteristics may collectively play different roles in shaping the production, dissemination, and consumption of news in the social media space of these countries. For example, low levels of political parallelism could mean that users are exposed to less partisan news content while a culture of strong journalistic professionalism and public broadcasting may be indicative of greater efforts to educate citizens with higher quality news content. Another possibility is the “Nordic tradition” of media literacy education in countries like Norway that feature formal national-level programs for both teachers and students (Forsman 2020) whereas other countries like the United States adopt more piecemeal approaches (Butler, Fuentes-Bautista, and Scharrer 2018). Indeed, the data shows that respondents in Denmark and Norway do have higher levels of news literacy compared to other countries. Of course, this study only examined the role of media system in an exploratory manner. Future comparative studies that adopt multilevel methods may better explicate and test the influence of different media system dimensions on the relationship between social media use for news and news literacy, as well as other pertinent democratic outcomes.

Limitations and Further Research

Several limitations of this study need to be acknowledged. First, it relied on secondary data where the definition of “news” was left to the respondent. Therefore, it was not possible conceptually to separate social media “news” that was shared by journalists with news shared by other actors such as family members and friends; or examine the distinction between soft news and hard news and their implications for news literacy. Some scholars though suggest that such distinctions may not be necessary. For example, Vraga et al. (2021) simply defined the functional aspect of news as “any

accurate information.” Second, the 4-item measure of news literacy used in the Reuters data focussed only on the extent in which individuals know how and by whom news content is produced. As a higher order concept, news literacy also comprises other dimensions such as knowledge of personal biases that affect news engagement (Vraga et al. 2021). This means future studies should extend the range of news literacy measures to encompass its various dimensions as different antecedents may influence certain dimensions in different ways. Moreover, the question items should be sufficiently broad to capture both the mass media and network media logics of news consumption and news knowledge. For example, does greater social media news engagement help one understand the conditions in which newspapers are created? Or is news knowledge logic-specific? Third, this study only focussed on individuals who use social media for news. Therefore, the findings cannot be generalized to the general population of the seven countries. But, if recent trends are of any indication (see Table 1), the use of social media for news will continue to rise as the number of digital natives with their associate lifestyles and media habits continue to grow and gradually displace the older generations (Twenge, Martin, and Spitzberg 2019). Therefore, this study provides important early indicators in different countries of the relationship between social media news platform diversity and news literacy. Fourth, while the study examines the diversity of platform usage, it did not examine the affordances of specific platforms. As noted earlier, certain platforms are often used to curate specific kinds of online social networks. For example, WhatsApp connections typically comprise strong-ties networks such as close friends, so plausibly shared news on WhatsApp may likely get more attention and engagement. Finally, despite the significant mediation models found in all countries, the research design is still cross-sectional. Therefore, claims of causality cannot be definitively made and future studies will require longitudinal designs to ascertain with more confidence that social media news use engenders news literacy.

Despite these limitations, this study makes an important contribution by explicating the conditions in which social media news use in mature democracies can engender or inhibit the development of news literacy. If news literacy has many positive and normatively desirable consequences, more studies outside of educational settings are needed to examine its antecedents.

Notes

1. The Reuters Digital News Report 2018 comprises data from 37 countries around the world. However, only a small number of countries contained the question items that asked about connections to public actors.
2. It was not practical to create a scale comprising all social media platforms within each country because this resulted in highly skewed distributions with skewness and kurtosis parameters that far exceeded acceptable levels. This was due to a very small number of people in the samples who used a very high number of platforms (e.g., one user in Korea reported using 22 platforms for news). The operationalization of the top eight platforms provides a balance that reflects the use of each country's most popular mainstream social media platforms by most people in the samples, as well as possessing acceptable levels of skewness and kurtosis. Subsequent analyses using both operationalizations (top 8 and all social media platforms) produced similar results.

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Appendix

Descriptive statistics of citizens who use social media as a source of news

Sample		UK	Germany	Denmark	Norway	Ireland	USA	Spain
Full Study	N	2117	2038	2025	2027	2007	2401	2023
	N	822	645	937	1033	1056	1070	1211
Gender (Female)	%	55%	49%	56%	45%	57%	58%	51%
Age	M	44.8	43.9	45.4	42.8	42.2	45.9	44.8
	SD	16.2	15.9	16.0	16.1	15.1	17.0	14.7
Education	M	3.2	2.9	3.3	3.3	3.1	2.9	3.3
	SD	1.1	1.1	1.1	1.2	1.2	1.2	1.0
Income	M	2.0	2.0	2.0	1.9	2.1	2.0	2.1
	SD	0.7	0.7	0.7	0.6	0.6	0.7	0.7
News frequency	M	7.8	7.9	7.8	7.8	7.8	7.6	7.8
	SD	1.5	1.3	1.5	1.5	1.4	1.8	1.2
News interest	M	3.9	4.1	3.6	3.7	4.0	3.9	4.2
	SD	0.9	0.8	0.9	0.7	0.8	1.0	0.7
News organization	%	25%	25%	23%	16%	22%	30%	33%
Journalists	%	18%	12%	12%	10%	15%	22%	20%
Multi-platform news	M	1.1	1.2	0.9	1.1	1.3	1.3	1.8
	SD	1.1	1.1	0.9	1.0	1.1	1.0	1.1
News engagement	M	1.4	1.5	1.1	1.2	1.4	1.8	2.4
	SD	1.6	1.7	1.4	1.5	1.6	1.9	1.9
News literacy	M	2.6	2.3	2.7	2.6	2.1	2.2	2.1
	SD	1.0	1.0	1.0	1.0	0.9	1.1	0.9
Top 8 sites for news	1	FB	FB	FB	FB	FB	FB	FB
	2	Tw	YT	FM	FM	YT	YT	WA
	3	YT	WA	Tw	YT	Tw	Tw	Tw
	4	WA	Tw	YT	Sn	WA	FM	YT
	5	FM	FM	LI	Tw	FM	In	In
	6	Sn	In	In	In	Sn	Sn	FM
	7	In	Xi	Sn	LI	In	WA	G+
	8	LI	G+	Pn	WA	LI	Pn	LI

Note. FB = Facebook; FM = Facebook Messenger; G+ = Google+; In = Instagram; LI = LinkedIn; Pn = Pinterest; Sn = Snapchat; Tw = Twitter; WA = WhatsApp; Xi = Xing; YT = YouTube.