Claudia Kozman, Clement Y. K. So, Sahar Khalifa Salim, Mostafa Movahedian, Jana El Amin and Jad Melki*

Social media behavior during uprisings: selective sharing and avoidance in the China (Hong Kong), Iran, Iraq, and Lebanon protests

Abstract

Purpose: This study examines the use of social media by individuals during protests in China (Hong Kong), Iraq, Iran, and Lebanon.

Method: Surveys in the four countries assess the relationship between people's attitudes toward the protests and their selection bias on social media, manifested through selective sharing and selective avoidance.

Findings: Regardless of the different political and media systems in each country, social media usage was largely similar. Overall, our findings established that people's attitude strength toward the protests was associated with their selective sharing behavior; those who scored high on supporting the protests were more likely than those who scored high on opposing the protests to share news that supports the protests, and vice versa. As for selective avoidance, social media protest news use emerged as the strongest predictor. The more individuals followed and shared protest news on social media, the more likely they were to

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*Corresponding author: Jad Melki, Institute of Media Research and Training, Lebanese American University, Beirut, Lebanon, E-mail: jmelki@lau.edu.lb. https://orcid.org/0000-0003-4248-1597
Claudia Kozman and Jana El Amin, Institute of Media Research and Training, Lebanese American University, Beirut, Lebanon, E-mail: claudia.kozman@lau.edu.lb (C. Kozman),
jana.elamine@lau.edu (J. El Amin). https://orcid.org/0000-0002-2447-8485 (C. Kozman).
https://orcid.org/0000-0002-8487-4578 (J. El Amin)
Clement Y. K. So, School of Journalism and Communication, The Chinese University of Hong Kong, Hong Kong, Hong Kong, E-mail: clementso@cuhk.edu.hk. https://orcid.org/0000-0001-6001-3725
Sahar Khalifa Salim, Media College, Aliraqia University, Baghdad, Iraq,
E-mail: Sahar_khalifa@aliraqia.edu.iq. https://orcid.org/0000-0003-0468-4537
Mostafa Movahedian, Department of English Language and Translation Studies, University of Applied Science and Technology, Iranian Academic Center for Education, Culture, and Research, Mashhad, Iran, E-mail: movahedian@gmail.com. https://orcid.org/0000-0003-4462-626X

engage in selective avoidance by hiding or deleting comments, unfriending or unfollowing people, and blocking or reporting people for posting comments with which they disagreed.

Implications: For selective sharing, our findings are consistent with extant research that found individuals with strong attitudes toward certain issues are more likely to express their opinions on social media. Also, for selective avoidance, our study supports the literature, which shows individuals practice selective avoidance to clean up their environment from attitude-inconsistent information, especially on social media, and exceedingly so during protests and crises.

Value: Selection bias places individuals into secluded groups and contributes to political divisions and polarization. Research has focused on online selective exposure and on offline selective avoidance, but online selective avoidance and sharing have rarely been studied. Our study contributes to emerging research on selective sharing and selective avoidance online during a period of polarization in multiple countries.

Keywords: Hong Kong; Iran; Iraq; Lebanon; media and protests; selective exposure; selective sharing; social media

1 Introduction

The past decade has witnessed a sharp rise in demonstrations around the world. After initial uprisings swept the Arab world in late 2010, a new series of protests erupted in 2019 as a response to dire economic conditions in Lebanon and Iraq (Bunyan 2019; Melki and Kozman 2021b). The same year, high gasoline prices in Iran (Dehghan 2018) and a controversial extradition bill in Hong Kong led to widespread demonstrations (Gondwe 2020). Expectedly, people flocked to social media, finding an opportunity to share their thoughts and advocate for their beliefs (Aruguete and Calvo 2018; Haciyakupoglu and Zhang 2015; Tufekci and Wilson 2012).

Social media offer easily accessible spaces for people to exchange information, connect with others, and organize protests (Ahmed et al. 2020; Valenzuela et al. 2012). Due to their efficiency and ability to provide rapid communication at low cost, social media encourage people to participate in social movements (Myers 1994), join political discussions online (Boulianne 2019), and participate in offline political events (Ahmad et al. 2019). Studies have revealed that although frequent engagement in social media increases users' exposure to heterogeneous opinions and political conflicts (Garrett and Stroud 2014; Kim 2011; Kozman and Melki 2018; Lee et al. 2014), people would rather be exposed to opinion-reinforcing

information while selectively avoiding opinion-challenging content (Knobloch-Westerwick and Meng 2009). When individuals avoid information that opposes their attitudes and beliefs, they place themselves into secluded groups, and contribute to increasing the political divisions within the society, potentially leading to polarization (Sunstein 1999). This type of selection bias is easier online, where decisions are made anonymously with the click of a button (Zhu et al. 2017). While extant research has focused on online selective exposure and to some extent on offline selective avoidance (Song 2016), online selective avoidance has not been studied as thoroughly, specifically in relation to political attitudes (John and Dvir-Gvirsman 2015).

The connection between selective sharing, selective avoidance, and attitudes is perhaps most noteworthy during periods of political unrest. Perceived identity threats during external events, such as political campaigns or social strain, change people's behavior, compelling them to turn to their groups by consuming attitude-consistent information (Slater 2015). Simultaneously, they become inclined to share attitude-consistent content and even avoid information that causes dissonance. The combination of these behaviors is detrimental to democratic life, as it favors attitude reinforcement on behalf of sage political deliberation. The result could be fragmentation and polarization that spills outside digital networks onto the streets, changing political realities on the ground (Melki and Kozman 2021b).

This study builds on previous research on selective avoidance during political turmoil by comparing its relationship with political attitudes and social media protest news use in four countries that vary greatly both in their media and political systems. The value of such international research lies in its ability to test the robustness of the selection bias theoretical framework in different contexts, aiming to advance research on this topic. Although media and political systems in China (Hong Kong), Iran, Iraq, and Lebanon differ, the comparison allows us to examine whether citizens from different countries practice the same online selection and avoidance habits regardless of their cultural settings.

1.1 Background on the protests

1.1.1 Lebanon

Although media outlets in Lebanon are relatively free, compared to others in the region, the media scene reflects local sectarian divisions and regional political alliances. Major political groups control most prominent media outlets in the country. The coverage of the 2019 protests in Lebanon was largely biased and

sharply divided between media outlets supporting and those opposing the protests, especially Television news (Kozman and Melki 2022).

1.1.2 Hong Kong

Ever since Hong Kong became part of China, its media system has witnessed various changes related to the re-establishment of media power structures and the increases in ownership of Hong Kong news media by the mainland Chinese government (So 2017). During that period, some outlets shifted to alternative platforms. After the eruption of the protests in 2019, activists widely used social media to garner support, exchange information, and organize protests (Purbrick 2019).

1.1.3 Iraq

After the 2003 war, Iraqi media witnessed a rapid expansion. However, the US occupation resulted in the division of the media along ethno-sectarian lines, which reinforced sectarian divides and partisan media coverage (Al-Rawi 2013). After protests erupted, the Iraqi government curtailed press freedoms, shut down 12 broadcast outlets, and intimidated others to discourage them from covering the demonstrations.

1.1.4 Iran

Iran's government applies tight control over its media (Chehabi 2001). Most newspapers and all broadcast media are owned or controlled by religious or governmental institutions (Bruno 2009). Reformists own some online media but face censorship and are usually blocked if they publish anti-government content (Bruno 2009). The government has silenced the press during the 2019 protests by forcing journalists to closely follow strict guidelines and authorities shut down the internet throughout the country for a week between November 16 and 23.

Although we implemented the same questionnaires in all countries (albeit in local languages), our comparative approach is not based on compatible samples. Instead, the comparison focused on the common protests context and attempted to evaluate selective sharing and avoidance across the different media systems.

1.2 Selective sharing on social media

Civic engagement and political participation have been conceptualized in various ways (Bakker and de Vreese 2011; Gil de Zúñiga and Valenzuela 2011; Gil de Zúñiga

et al. 2012). In the online world, the common denominator between the different definitions is citizens engaging in some sort of civic and political behavior, such as sharing political information and participating in online discussions about politics or being proactive in their communities (Gil de Zúñiga et al. 2012). Advancements in digital technologies have facilitated information sharing by making it easy to post content on digital networks, especially on social media. The latter offer individuals interactive platforms for political communication, encouraging them to pursue agency and influence through various activities, among which are mobilization and circulation of information (Kahne et al. 2014). The wide reach of social media puts individuals in touch with others from across the globe, allowing them to network with people they do not know. Ideologically diverse discussion networks have been linked to politically active individuals who seem to benefit from the flow of opinions to make more-informed political judgments (Nir 2011). Large networks have been deemed important for increasing people's exposure to diverse opinions, prompting individuals to participate in online discussions, which pave the way for civic involvement (Gil de Zúñiga and Valenzuela 2011). The significance of political participation in diverse networks is perhaps most obvious in relation to political deliberation (Garrett 2009). Exposure to diverse opinions can dilute echo chambers (Min and Wohn 2018) that are formed when like-minded people coalesce around the extremities, leading to opinion polarization (Sunstein 1999). Consequently, online bubbles pose a threat to political deliberation, as they increase both people's exposure to attitude-supporting information and the frequency of occurrence of such content within these circles (Aruguete and Calvo 2018). With polarization occurring due to partisan selection bias in online filter bubbles (Lu and Lee 2018; Stroud 2010), the likelihood of sharing attitude-consistent information becomes even higher in such digital circles (Liang 2018).

Social media news use is perhaps most pronounced during protests, particularly due to the platforms' technological affordances that promote participation and social interaction (Starbird and Palen 2012; Valenzuela et al. 2012). Like all types of external events where rival ideologies clash and social identities are threatened (Slater 2015), protests change people's behavior, diminishing their tolerance of anti-attitudinal opinions (Kozman and Melki 2022), and prompting them to coalesce around like-minded sources (Slater 2015). Protests also change an otherwise casual communication environment into one that requires problem solving as opposed to mere decision making, a concept that Kim and colleagues brought forward in their theorization of information behaviors during problematic situations (see Kim et al. 2010; Kim and Grunig 2011, 2021). In their communicative action model, which forms an integral part of the situational theory of problem solving (Kim and Grunig 2011), individuals are involved in three levels of information behavior: selection, transmission, and acquisition (Kim et al. 2010).

According to this model, rotests can be conceptualized as problematic situations that require people to engage in problem solving through transmitting information they have previously selected. In such challenging times, individuals might find in social media an avenue to express themselves, offering their support to one group over another, without the need to engage in actual political behavior. Social media encourage political discourse during protests (Haciyakupoglu and Zhang 2015) and ease communication of personal experiences and stories (Bennett and Segerberg 2012). During the Arab uprisings, Egyptian activists used Twitter to receive information streams from journalists, which they used to spread local updates and organize their offline activities (Kidd and McIntosh 2016). In Russia, Facebook served as a platform to share information about the ongoing events related to the 2011 Duma elections as well as promote the protestors' agendas (White and McAllister 2014). Elsewhere, Chilean youth actively used Facebook to socialize and engage with the news during the 2010 pro-environmental protests (Valenzuela et al. 2012), while Turkish protestors used social media to criticize the government and legacy media (Baykurt 2013).

Studies have demonstrated that social media are not neutral (Cardenal et al. 2019) and could contribute to segmenting the public and increasing polarization through algorithms that favor individuals' previous selections and sharing behaviors (Conover et al. 2011; Ohme 2021). Among the motives that drive news sharing, informing others and interacting with them are two important ones (Kümpel et al. 2015). People with strong attitudes were found to express their opinions in political discussions more than others (Matthes et al. 2010), as were politically affiliated individuals compared to non-partisans (Kalogeropoulos et al. 2017). Since transmission of information becomes more intense the more one is active in solving a problem (Kim et al. 2010), individuals involved in protests can be expected to increase their information forwarding behavior. Describing behavior in troubling situations as "cognitive arrest," Kim and Grunig (2021) contend individuals resort to preset conclusions at which they have arrived in similar previous situations, thus engaging in "machine-like cognitive action" where they "load" their knowledge database with "inclined beliefs" and fire them at others to reach the desired outcomes (p. 233). One such group is partisans whose strength of partisanship has been found to drive online political participation, making politically involved people more likely to share information that is consistent with their attitudes and ideologies (Valenzuela et al. 2012). As pro-attitudinal news consumption invokes feelings of anger, it prompts individuals to share political content related to the topic (Hassell and Weeks 2016). But even those who encounter information inconsistent with their political beliefs are likely to seek like-minded individuals and subsequently share attitude-consistent information (Weeks et al. 2017). Evidence from the 2019 anti-governmental protests

in Lebanon corroborates this finding, indicating staunch protestors were more likely than opposers to selectively share protest news on social media (Melki and Kozman 2021b). The result of such selective sharing, Chan and Fu (2017) contend, "can overemphasize one-sided arguments and effectively downplay counterarguments" (p. 268). This could further aid in attitude reinforcement, especially when accompanied by heavy algorithmic social media exposure (Ohme 2021), which leads to social media bubbles that exaggerate the prevalence of specific protest information (Aruguete and Calvo 2018). Based on evidence regarding the relationship between people's attitudes and their social media sharing behavior, we propose the following hypotheses:

H1: People's attitude strength toward the protests predicts selective sharing, where (a) those who are more supportive of the protests are also more likely to share news that supports the protests, and (b) those who are more opposed to the protests are more likely to share news that opposes the protests.

1.3 Selective avoidance on social media

Recent advances in research on communication behaviors that have brought to the forefront the situational theory of problem solving have highlighted the various decisions individuals make during the process of information communication (Kim and Grunig 2011). Besides information acquisition and transmission, the communicative action model outlined above takes into account the act of avoidance, which Kim et al. (2010) label "information forefending" (p. 136). In problematic situations, individuals "fend off *certain* information by judging its value and relevance in advance in a given problem-solving task," which helps them reduce cognitive discrepancy as well as manage information overload (Kim et al. 2010, p. 136, italics original). Selective avoidance, or the drive to flee attitude-discrepant information, has also been studied in relation to selective exposure, which is the act of seeking attitude-consistent information (Garrett and Stroud 2014). As the first to test selection bias in political issues, Hyman and Sheatsley (1947) found that individuals seek information congruent with their attitudes and avoid incongruent content. Later experimental research found that avoidance occurred more for attitude-discrepant than for attitude-consistent content (Frey 1982). Selective exposure to pro-attitudinal content, which forms the base of Festinger's (1957) theory of cognitive dissonance, however, does not automatically predict selective avoidance of counter-attitudinal content (Garrett and Stroud 2014).

Building on theories of psychology and social learning, Case et al. (2005) contended that avoiding information is associated with several cognitive and emotional elements, among which are anxiety, self-efficacy, and locus of control. People practice selective avoidance to create a clean environment that does not include counter-attitudinal information (John and Dvir-Gvirsman 2015). One of the reasons they would do so is political. Social media news users have admitted to hiding, blocking, or unfriending someone for political causes (Rainie and Smith 2012). Other studies also suggest people who are more engaged in political talk and people who hold strong ideologies are subject to practicing selective avoidance on social media (Bode 2016). Considering problematic situations call for more active communicative behavior, individuals' tendency to engage in more selective in-formation communication, which includes avoiding certain content, also rises (Kim and Grunig 2021). A study of the 2014 Hong Kong Umbrella Movement found as much as 16% of users tend to hide posts or unfriend users for political reasons (Zhu et al. 2017). This percentage is higher than that calculated during politically steady periods, indicating protest-related use of social media promotes shielding from attitude-inconsistent points of view (Zhu et al. 2017). During political unrest, because differences in political opinions are often treated emotionally (Zhu et al. 2017), politically active people with extreme ideologies will most likely unfriend users who disagree with them and hide their comments (John and Dvir-Gvirsman 2015). Thus, the higher the user is politically involved, the higher is their tendency to break ties with those who do not share their opinion (Skoric et al. 2018). Dissonance avoidance was also found to be more common in political than non-political topics, suggesting the reason could be people's stronger attitudes about political rather than non-political issues (Nam et al. 2013).

Attitude strength, in general, is a crucial driver of selectivity bias that can predict exposure to both pro-attitudinal information (Garett 2009; Garrett and Stroud 2014) and anti-attitudinal information (Peralta et al. 2017). However, the case might be different during political upheaval, a time where social identities are perceived to be threatened, prompting individuals to revert to the group with which they identify (Slater 2015). Consequently, they might avoid information that poses a threat to their opinions, based on the premise that people seek information to reduce uncertainty and anxiety (Berger and Calabrese 1975).

Taken together, the above findings suggest people's political involvement and attitudes towards an issue puts them at a higher risk to engage in selective avoidance of counter-attitudinal content on social media. The propensity to avoid disagreeable content might be even more pronounced if accompanied by frequent uses of these networks. Generally, heavy activity on social media indicates heterogenous networks, which are linked to higher exposer to diverse opinions, especially when the usage is for political reasons (Kim 2011; Lee et al. 2014).

Network heterogeneity is also a natural byproduct of the structural characteristics of social media platforms, considering people use social media for various reasons that extend beyond politics, thus, choosing friends based on a myriad of apolitical criteria (Lee et al. 2014). As people engage with various activities on social media, they come across individuals who might not hold similar opinions. While it might be easy to ignore these people on a regular day, protests carry with them strong emotions that could make people less tolerant to opposing views (Zhu et al. 2017). This could be additionally problematic for heavy users of social media, who are more likely to encounter different types of information (Valenzuela et al. 2012).

Indeed, for those who frequently engage in news-related activities on social media, such as sharing or seeking news, exposure to counter-attitudinal content has been linked to a decrease in their political discussions (Lu et al. 2016). Nir (2011) found that facing opposition in the form of attitude-discrepant content without support from one's own circle is detrimental to political engagement. Avoiding such opposition, then, could aid social media news users in creating a supportive network that promotes involvement and a sense of belonging that facilitates participation (Zhu et al. 2017). Such acts of selective avoidance, manifested through political unfriending and unfollowing, could be especially intense in larger political discussion networks (Skoric et al. 2018). Based on studies that shows frequency of usage is a significant predictor of various social media phenomena, we expect heavy protest-related social media news use, which includes following and posting news about the protests on social media, to play a role in selective avoidance, in the presence of other political factors, such as issue attitudes and general interest in politics. Although literature provides some direction toward this relationship, research on this topic is still in its infancy. We, therefore, pose the following research question.

RQ1: Does protest-related news use on social media predict selective avoidance, beyond strong attitudes and political interest?

2 Method

Survey methodology was used in all four countries. Surveys are the most efficient method in capturing a broad snapshot of public opinion during a specific timeframe (Poindexter and McCombs 2000) and are commonly used in selective exposure and avoidance research. Data were collected in Chinese in Hong Kong (May 6–June 16, 2020), in Persian in Iran (December 6, 2019–March 21, 2020), and

in Arabic in Iraq (December 6, 2019–December 22, 2019) and Lebanon (December 5–12, 2019).

2.1 Sample

The total sample size is 6,209 participants. Different sampling methods were applied in different countries. Random samples were pursued in Lebanon and Hong Kong. For Hong Kong, participants were randomly selected from the Hong Kong People Representative Panel and the Hong Kong People Volunteer Panel. Established by the Hong Kong Public Opinion Research Institute, both panels are free and open for anyone to join. Researchers sent emails with a link to the questionnaire to 7,466 from the former panel and 63,806 from the latter. A total of 4,355 responses were received, of which incomplete questionnaires were discarded, leaving the total sample at 3,599. Researchers examined the collected data to make sure that the sample reflected the population. The political inclination of participants was not largely representative of the population and mostly represented liberals (54%). This was inevitable because online surveys attract more youth who tend to be more liberal. For Lebanon, a random sample of 1,000 individuals was targeted based on a population of six million (95%CI, ±3.1%). Questionnaires were distributed proportionally to the number of residents in each governorate. The study adopted a multi-stage probability sampling technique to ensure a random representative sample. In addition, to ensure sufficient representation from protestors in the streets, 30% of the surveys were conducted with respondents present at the main protest squares. Researchers used a systematic random sample in this case, depending on the size of the protest, picking every third person for small and medium-sized gatherings and every fifth person for large gatherings.

Due to political and security risks, non-random samples were the only options in Iraq and Iran. For Iraq, questionnaires were shared on different Facebook groups of Iraqi governorates (south, west and central Iraq). Some surveys were also administered to activists who are members of closed Facebook groups, which are usually used to share information about protests. After an overall sample size of 1,000 individuals was reached, the survey was closed. The sample likely faced self-selection bias. For Iran, an overall sample of 614 participants were selected through a snowball sampling technique. Questionnaires were sent to personal contacts of the researchers in Iran, who in turn, shared the questionnaire with other personal contacts. Questionnaires were either administered through Google Forms or in printed format. Snowballing was the only viable option given the risks of conducting research about this sensitive issue in Iran.

2.2 Instrument and measurement

The questionnaire consisted of only close-ended questions that needed around 10 min to answer. All the variables, except demographics, were measured at the interval level following a 4-point scale. Table 1 shows the sample distributions.

2.2.1 Issue attitudes

An attitude is how individuals evaluate certain events (Hart et al. 2009), which are protests in the current study. Attitude strength was measured by asking respondents about whether they supported or opposed the protests (1 = strongly oppose, 4 = strongly support) (Knobloch-Westerwick and Meng 2009; Wojcieszak 2019).

2.2.2 Selective sharing

This variable was measured through two separate questions, by asking participants the extent to which they shared news that only supports the protests or only opposes the protests (1 = never, 4 = often).

2.2.3 Selective avoidance

This variable was measured by asking people how often they hid/deleted a comment about the protests they disagreed with, unfriend/unfollowed someone for posting a comment about the protests they disagreed with, and blocked/reported someone for posting a comment about the protests they disagreed with (John and Dvir-Gvirsman 2015; Skoric et al. 2016; Zhu et al. 2017). A composite selective avoidance variable was computed by averaging the answers to the above three, 4-point scale questions (Cronbach's alpha = 0.82, M = 1.6, SD = 0.42).

2.2.4 Social media news use

A composite measure was computed by averaging the answers to two questions: How often people followed news about the protests on social media, and how often they shared news about the protests on social media. The questions were measured at a 4-point scale ranging from never to often. The variable established internal reliability with Cronbach's alpha = 0.72 (M = 2.3, SD = 0.66).

Table 1: Demographics and study variables.

	All	Lebanon	Iraq N (%)	Iran	Hong Kong
Sample size	6,209	1,000 (16.1)	999 (16.1)	613 (9.9)	3,597 (57.9)
Gender					
Male	3,219 (51.8)	514 (51.4)	648 (64.9)	327 (53.5)	1,730 (48.1)
Female	2,897 (46.7)	486 (48.6)	351 (35.1)	286 (46.7)	1,774 (49.3)
Other	42 (0.7)	0	0	0	42 (1.2)
Age					
18–22	1,014 (16.3)	181 (18.1)	238 (23.8)	153 (25.0)	442 (12.3)
23–30	1,857 (29.9)	265 (26.5)	377 (37.7)	195 (31.8)	1,020 (28.4)
31–45	1,662 (26.8)	267 (26.7)	268 (26.8)	148 (24.1)	979 (27.2)
46–65	1,446 (23.3)	243 (24.3)	107 (10.7)	96 (15.7)	1,000 (27.8)
>65	153 (2.5)	44 (4.4)	9 (0.9)	21 (3.4)	79 (2.2)
Education					
High School or less	2,234 (36.0)	817 (81.7)	360 (36.0)	240 (39.2)	817 (22.7)
University	3,889 (62.6)	183 (18.3)	639 (64.0)	373 (60.8)	2,694 (74.9)
Political interest					
Not at all	301 (4.8)	155 (15.5)	41 (4.1)	103 (16.8)	2 (0.1)
Not very interested	477 (7.7)	173 (17.3)	51 (5.1)	191 (31.2)	62 (1.7)
Somewhat interested	1,768 (28.5)	349 (34.9)	300 (30.0)	198 (32.3)	921 (25.6)
Very interested	3,655 (58.9)	323 (32.3)	607 (60.8)	121 (19.7)	2,604 (72.4)
Attitude strength					
Strongly oppose	349 (5.6)	192 (19.2)	15 (15.5)	91 (14.8)	51 (1.4)
Somewhat oppose	354 (5.7)	155 (15.5)	47 (4.7)	106 (17.3)	46 (1.3)
Somewhat support	1,094 (17.6)	279 (27.9)	257 (25.7)	178 (29.0)	380 (10.6)
Strongly support	4,399 (70.8)	374 (37.4)	680 (68.1)	238 (38.8)	3,107 (86.4)
Sharing pro-protest news					
Never	1,053 (17.0)	155 (15.5)	261 (26.1)	239 (39.0)	398 (11.1)
Rarely	1,049 (16.9)	69 (6.9)	119 (11.9)	1 (0.2)	860 (23.9)
Sometimes	1,797 (28.9)	121 (12.1)	217 (21.7)	105 (17.1)	1,354 (37.6)
Often	1,655 (26.7)	159 (15.9)	402 (40.2)	267 (43.6)	827 (23.0)
Sharing anti-protest news					
Never	3,642 (58.7)	374 (37.4)	710 (71.1)	456 (74.4)	2,102 (58.4)
Rarely	1,153 (18.6)	91 (9.1)	124 (12.4)	4 (0.7)	934 (26.0)
Sometimes	507 (8.2)	29 (2.9)	97 (9.7)	43 (7.0)	338 (9.4)
Often	253 (4.1)	10 (1.0)	68 (6.8)	109 (17.8)	66 (1.8)
Composite measures			M (SD)		
Social media pro-test news use	2.2962 (0.65821)	1.7379 (0.63354)	2.3733 (0.64048)	1.8803 (0.48813)	2.5013 (0.56744)
Selective avoidance	1.5541 (0.42291)	1.0943 (0.23838)	1.3150 (0.37661)	1.7564 (0.37355)	1.7154 (0.34914)

3 Results

H1, which stated that people's attitude strength toward the protests is related to selective sharing behavior, was supported. To test the hypothesis, we used the non-parametric Kruskal–Wallis test for k-independent samples, which is similar to ANOVA but with noncontinuous variable. Instead of comparing means among groups, the Kruskal–Wallis H test computes and analyzes mean ranks.

    As hypothesized (H1a), those who were more supportive of the protests were more likely than those who were more opposed to share news that supports the protests, where the highest likelihood was found among the strong supporters ($Mrank = 3{,}070.7$) and the lowest was among the strong opposers ($Mrank = 833.34$), Kruskal–Wallis $H = 923.911$, $p < 0.001$ (Table 2). Performing the test on each of the four countries confirmed the same findings for each.

    Overall, H1b, as well, was significant, indicating that strong opposers had the highest likelihood of posting news that opposes the protests ($Mrank = 4{,}072.34$), followed closely by somewhat opposers, stacking far from somewhat and strong supporters ($Mrank = 2{,}497.73$), Kruskal–Wallis $H = 380.412$, $p < 0.001$ (Table 3).

Table 2: Kruskal–Wallis H tests for differences in sharing pro-protest news across attitudes toward the protests.

Country	Attitudes	*Mrank*	*H*	*p*
All	Strongly oppose	833.34		
	Somewhat oppose	852.40	923.911	0.000
	Somewhat support	2,366.07		
	Strongly support	3,070.07		
Lebanon	Strongly oppose	78.00	226.526	0.000
	Somewhat oppose	85.34		
	Somewhat support	226.96		
	Strongly support	324.88		
Iraq	Strongly oppose	423.33	111.894	0.000
	Somewhat oppose	303.94		
	Somewhat support	376.40		
	Strongly support	561.95		
Iran	Strongly oppose	121.32	379.145	0.000
	Somewhat oppose	120.00		
	Somewhat support	380.32		
	Strongly support	405.47		
Hong Kong	Strongly oppose	619.78	276.348	0.000
	Somewhat oppose	627.72		
	Somewhat support	1,160.36		
	Strongly support	1,815.06		

Table 3: Kruskal–Wallis *H* tests for differences in sharing anti-protest news across attitudes toward the protests.

Country	Attitudes	*Mrank*	*H*	*p*
All	Strongly oppose	4,072.34		
	Somewhat oppose	3,816.62	380.412	0.000
	Somewhat support	2,497.73		
	Strongly support	2,710.92		
Lebanon	Strongly oppose	374.73	138.538	0.000
	Somewhat oppose	364.72		
	Somewhat support	209.82		
	Strongly support	230.00		
Iraq	Strongly oppose	623.67	5.856	0.119
	Somewhat oppose	519.78		
	Somewhat support	509.48		
	Strongly support	492.32		
Iran	Strongly oppose	447.73	370.083	0.000
	Somewhat oppose	467.38		
	Somewhat support	232.80		
	Strongly support	235.66		
Hong Kong	Strongly oppose	2,475.39	45.636	0.000
	Somewhat oppose	2,030.40		
	Somewhat support	1,680.02		
	Strongly support	1,704.46		

When comparing, the test was significant for all countries studied, except Iraq, which was not significant ($p < 0.119$), but its data were nevertheless consistent with the other countries and the p-value is likely due to the small sample from Iraq and the oversampling of university degree holders, who led many of the protests.

To explore the tendency of participants to avoid others on social media, RQ asked whether protest-related news use on social media predicts selective avoidance, beyond strong attitudes and political interest. A multiple linear regression was used with three blocks of variables (Table 4). In the first block, demographics (gender, age, education, and political interest) were entered. All variables were recoded as dichotomous, whereas gender was dummy coded. The regression model was significant, explaining 6.1% ($F = 79.72$, $p < 0.001$) of the variance in the dependent variable. All variables except gender were significant. In the second block, we entered attitude strength, which was significant. The three previous variables remained significant, although political interest notably dropped in value. The second regression model was significant, explaining 10.1% of the variance ($F = 113.88$, $p < 0.001$). In the third block, we entered social media news

Table 4: Multiple linear regression predicting selective avoidance.

Country	Variables	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)
All	Gender_Females	0.017 (0.011)	0.019 (0.010)	0.019 (0.010)
	Gender_Other	0.031 (0.090)	0.008 (0.088)	−0.030 (0.085)
	Age	0.048 (0.011)^c	0.054 (0.010)^c	0.080 (0.010)^c
	Education	0.082 (0.006)^c	0.067 (0.006)^c	0.054 (0.005)^c
	Political interest	0.154 (0.016)^c	0.069 (0.017)^c	0.006 (0.016)
	Attitude strength		0.108 (0.007)^c	0.062 (0.007)^c
	Social media protest news use			0.181 (0.009)^c
	Adjusted R^2	0.061	0.101	0.163
	F for change in R^2	79.72^c	113.88^c	167.72^c
Lebanon	Gender	0.000 (0.015)	0.001 (0.015)	0.002 (0.014)
	Age	−0.077 (0.015)^c	−0.066 (0.015)^c	−0.021 (0.015)
	Education	0.048 (0.010)^c	0.044 (0.009)^c	0.025 (0.009)^b
	Political interest	0.049 (0.016)^b	0.025 (0.016)	0.012 (0.015)
	Attitude strength		0.037 (0.007)^c	0.008 (0.007)
	Social media protest news use			0.134 (0.013)^c
	Adjusted R^2	0.058	0.084	0.170
	F for change in R^2	16.24^c	19.21^c	35.05^c
Iraq	Gender	−0.123 (0.025)^c	−0.120 (0.025)^c	−0.106 (0.025)^c
	Age	−0.018 (0.027)	−0.019 (0.027)	−0.013 (0.026)
	Education	−0.017 (0.013)	−0.019 (0.013)	−0.017 (0.013)
	Political interest	0.102 (0.041)^a	0.087 (0.041)^a	0.064 (0.041)
	Attitude strength		0.051 (0.018)^b	0.039 (0.018)^a
	Social media protest news use			0.100 (0.018)^c
	Adjusted R^2	0.026	0.032	0.059
	F for change in R^2	7.56^c	7.66^b	11.48^c
Iran	Gender	0.042 (0.031)	0.040 (0.030)	0.006 (0.027)
	Age	0.022 (0.032)	8.946 (0.032)	−0.009 (0.028)
	Education	−0.008 (0.016)	−0.009 (0.016)	−0.010 (0.014)
	Political interest	0.026 (0.030)	0.028 (0.030)	−0.006 (0.027)
	Attitude strength		0.034 (0.014)^a	0.027 (0.012)^a
	Social media protest news use			0.363 (0.027)^c
	Adjusted R^2	−0.001	0.007	0.227
	F for change in R^2	0.78	1.82^a	31.02^c
Hong Kong	Gender_Female	0.001 (0.012)	0.003 (0.012)	0.003 (0.012)
	Gender_Other	−0.123 (0.076)	−0.124 (0.075)	−0.136 (0.074)
	Age	0.075 (0.012)^c	0.080 (0.012)^c	0.097 (0.012)^c
	Education	−0.016 (0.007)^a	−0.015 (0.007)^a	−0.012 (0.007)
	Political interest	0.153 (0.046)^b	0.112 (0.046)^b	0.090 (0.024)^a
	Attitude strength		0.085 (0.012)^c	0.059 (0.012)^c
	Social media protest news use			0.109 (0.011)^c
	Adjusted R^2	0.017	0.031	0.059
	F for change in R^2	12.48^c	19.06^c	31.63^c

Gender was dummy coded since it comprised three values. The F change test determines the significance of an R square change, where a significant F change means the added variable significantly improves the model prediction. However, "Other" was present only in the Hong Kong sample. $^a p < 0.05$, $^b p < 0.01$, $^c p < 0.001$.

use. The model was significant accounting for 16.3% of the variance ($F = 167.72$, $p < 0.001$). In this block, gender remained not significant and political interest also become not significant. All other variables (age, education, attitude strength, protest news use on social media) remained significant and positively associated with selective avoidance. However, protest news use on social media registered the strongest association (unstandardized $B = 0.181$, $p < 0.001$), while age ($B = 0.080$, $p < 0.001$), education ($B = 0.054$, $p < 0.001$), and attitude strength ($B = 0.062$, $p < 0.001$) showed markedly low correlation values. The regression model was then conducted on each country separately. For all countries, protest news use on social media was significant and registered the strongest positive association value. Attitude strength was significant (and weak) in all countries except Lebanon. Education was only significant (and weak) for Lebanon, gender was only significant for Iraq, and age and political interest were only significant (and weak) for Hong Kong.

4 Discussion and conclusion

This study surveyed social media usage in four countries that were undergoing uprisings: China (Hong Kong), Iran, Iraq, and Lebanon. It analyzed the relationship between individuals' attitude strength toward the protests and their selective sharing and selective avoidance behaviors on social media. Our overall findings established that people's attitude strength toward the protests was associated with their selective sharing behavior. Those who scored high on supporting the protests were more likely than those who scored high on opposing the protests to share news that supports the protests, and those who scored high on opposing the protests were more likely than those who scored high on supporting the protests to share news that opposed the protests. In addition, while age, education and attitude strength were weakly associated with selective avoidance, protest news use on social media emerged as the strongest predictor of such behavior. The more likely individuals were to follow and share protest news on social media, the more likely they were to engage in selective avoidance by hiding or deleting comments, unfriending or unfollowing people, and blocking or reporting people for posting comments with which they disagreed. Moreover, political interest registered a significant relationship only in the absence of protest news use on social media, but when the latter variable was introduced, political interest lost significance.

When it comes to selective sharing, our findings are consistent with extant research that found partisans and individuals with strong attitudes toward certain issues are more likely to express their opinions in political discussions and on social media (Aruguete and Calvo 2018; Kalogeropoulos et al. 2017; Matthes et al.

2010; Valenzuela et al. 2012; Weeks et al. 2017). These behaviors contributed to shaping political issues and increasing partisanship (Aruguete and Calvo 2018; Weeks et al. 2017) by overemphasizing supporting arguments and downplaying or even eliminating counterarguments (Chan and Fu 2017, p. 268).

As for selective avoidance, our study supports a growing cohort of studies that show individuals practice selective avoidance to clean up their environment from attitude-inconsistent information (John and Dvir-Gvirsman 2015), especially on social media (Bode 2016; Rainie and Smith 2012; Skoric et al. 2018), and exceedingly so during protests and crises (John and Dvir-Gvirsman 2015; Kozman and Melki 2022; Zhu et al. 2017). However, our findings attribute selective avoidance behavior to heavy social media exposure and sharing and not as much to political interest, attitude strength or other demographic variables. Previous studies have shown that people with high interest in politics are more likely to engage in selective avoidance (Skoric et al. 2018), but our findings suggest that political interest does not play a significant role and that social media usage may fully be mediating this relationship. Indeed, because political interest registered a significant relationship only in the absence of protest news use on social media, and it lost its significance when the latter was introduced, this may suggest that protest news use on social media fully mediates the relationship between political interest and selective avoidance. However, further research is needed to confirm this relationship and additional examination of different social media platforms is important to confirm whether the relationship remains the same across platforms (Boulianne 2019; Skoric et al. 2016).

When comparing countries, no significant or meaningful differences emerged for the relationship between attitude strength and selective sharing, despite the significant differences between the media systems, polities, and cultures. As for selective avoidance, in all four countries protest news use on social media was significant and registered the strongest positive association value. Nevertheless, some statistically significant differences emerged between the four countries.

First, only in China (Hong Kong) did political interest remain a statistically significant but nevertheless weak predictor of selective avoidance, even after introducing protest news use on social media. This may be due to the unique nature of the protests in Hong Kong. Compared to the other three countries, where the protests focused on corruption, dire economic circumstances, and the political system, the Hong Kong protests dealt with a momentous sovereignty shift and identity threat (Yuen and Chung 2018). Hong Kong's protests essentially reacted to a loss of autonomy and weakened sovereignty (Chiu and Kaxton 2022). This existential threat probably played a role in radicalizing protest news use on social media and promoted selective avoidance for those highly engaged in its politics. Facing an existential crisis, politically interested social media news users in Hong

Kong had higher motivation to block and unfriend those who opposed their convictions. Therefore, it is plausible to conclude that selective avoidance will be higher during such existential crises among partisan users, where polarization is extremely high. Future research in similar countries that face such existential crises, for example Palestine and Ukraine, could confirm this finding.

Second, only in Iraq did gender register a significant difference showing that men were more likely than women to engage in selective avoidance. This may be due to the oversampling of men from Iraq but may also reflect the gendered media environment and culture in the post-US invasion Iraq, where sexual harassment of women online and offline is rampant and women are less engaged in politics, as they see their voices not sufficiently represented while sexist retaliations and negative attitudes towards their appearances in the public sphere widespread (Kaisy 2020).

Third, attitude strength was uniquely not significant, and education was uniquely significant (and weak) in Lebanon. In other words, Lebanese social media protest news users who had university degrees were slightly more likely to engage in selective avoidance. This may be attributed to the strong role of university students and academics in organizing and leading the protest, especially at the start (Melki and Kozman 2021b). This finding is problematic as we would assume that university degree holders may have higher maturity and knowledge about the dangers of selective avoidance in their promotion of filter bubbles and echo chambers, but the dire economic situation and high unemployment that faced educated Lebanese and pushed many of them to eventually emigrate may have radicalized them further and promoted such increased selective avoidance behavior. However, Lebanese social media protest news users who opposed and those who supported the protests did not significantly differ in their selective avoidance inclinations. The shifting nature of the Lebanon protests may explain this. At the start of the protests, diverse Lebanese joined them, but many partisans withdrew after a few weeks when their political parties asked them to abandon the streets. Other parties attempted to co-opt the protests and jump on their bandwagon, turning even more Lebanese against it (Kozman and Melki 2022). This fluid situation may have contributed to erasing differences in selective avoidance between those who supported and those who opposed the protests, particularly when many from the former group moved to the latter.

In a globally hyper-mediated environment and a constantly growing social media usage, our findings anticipate an expansion of the selective avoidance phenomenon, particularly during crises. Furthermore, the rise of divisive populist rhetoric, the predominance of algorithmic bias online, and the growing acceptance of partisan mainstream news point to expanding filter bubbles and echo chambers online and offline. As research has found that partisan selective exposure

promotes polarization (Lu and Lee 2018; Stroud 2010) and contributes further to the phenomena of echo chambers and filter bubbles that lead to a further polarized and fragmented society (Sunstein 1999), governments and media institutions alike need to seriously address this dangerous climate that breeds intolerance, segregation, and potentially extremism. Previous studies have also shown that heavy social media protest news users are more likely to engage in political action, including street protests (Kozman and Melki 2022). This is a strong implication of the ability of social media to drive civic participation (Bakker and de Vreese 2011; Boulianne 2019; Gil de Zúñiga and Valenzuela 2011; Gil de Zúñiga et al. 2012; Nir 2011; Skoric et al. 2016) but also to drive polarized and extremist actions (Kenyon et al. 2021). Without tolerance and exposure to other opinions, democratic deliberation and social interaction in diverse societies are doomed to failure. In this context, individuals' selective habits are amplified through their selective sharing practices, promoting particular opinions and potentially nurturing extremist views in echo chambers. Encouraging critical thinking about such behaviors through media literacy may be a healthy intervention that promote tolerance, democracy and cohesion in society (De Abreu et al. 2017). Moreover, social media companies should pay attention to such behaviors and adjust their algorithms to promote the serendipitous encounter of diverse information rather than create a vicious cycle of attitude-confirming information that promote filter bubbles and echo chambers (Scrivens et al. 2020). Future research on whether selective exposure and selective avoidance lead to polarization and extremism may shed light on why some uprisings ended in violence and civil strife, while others to more peaceful resolutions (Melki and Kozman 2021a).

4.1 Limitations and supplemental material

The study encountered several limitations. It did not account for the differences in selectivity when the topic and/or medium changed, although previous research has revealed that these two can influence selectivity (Stroud 2010). Given the different political environments in each country, researchers had to administer questionnaires differently. The inconsistencies in the sampling technique generated differences among the four samples. Some countries administered questionnaires randomly, allowing for generalization, while others administered questionnaires non-randomly and thus, limited the generalizability of the study. This is necessary in many countries of the Global South, especially in states where the political system (e.g., Iran) or the security situation (e.g., Iraq) preclude proper randomized sampling. Additionally, this study used a survey method and relied on self-reporting to understand people's prior behaviors. While this method provides

an opportunity to understand real-life political events, the reliance on self-reporting allows for incorrect reports of prior behaviors and self-presentation issues.

When comparing the sample demographics to publicly available census records, our samples differed from the populations, except for Lebanon where the sample roughly represented the population demographics: 49.6% of Lebanese are female, 49.7% are under 30, and 21% hold university degrees. For Hong Kong, females were underrepresented, while those under 30 and university degree holders were overrepresented, as census records show that 54.2% of the Hong Kong population are female, 26.9% are under 30, and 32.7% hold university degrees. For Iraq, females were underrepresented, and university degree holders were overrepresented: 49.4% of Iraqis are female, 65.4% are under 30, and an estimated 20% hold university degrees. For Iran, females were slightly under-represented, while those under 30 and university degree holders were over-represented. The latest census records from 2016 show that 49.5% of Iranians are female, 49% are under 30, and an estimated 25% hold university degrees.

The study provides additional analyses beyond the scope of its hypotheses. In relation to H1, follow-up comparisons between the four groups of attitudes, using the post-hoc non-parametric Mann-Whitney U tests for differences between two groups of the independent variable, returned consistent results with minor discrepancies that do not affect the findings (see supplementary material for details). Moreover, beyond the stated hypothesis, we gauged whether supporters made the decision to share news that supports the protests while simultaneously refraining from sharing news that opposes the protests, and vice versa for opposers. Because the statistical tests violated multiple assumptions, we listed these additional results in the supplementary material.

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Bionotes

Claudia Kozman
Institute of Media Research and Training, Lebanese American University, Beirut, Lebanon
claudia.kozman@lau.edu.lb
https://orcid.org/0000-0002-2447-8485

Claudia Kozman was assistant professor at the Lebanese American University. She recently joined the Journalism and Strategic Communication Program at Northwestern University in Qatar. Her research focuses on news content, framing and sourcing in Arab media, and journalistic patterns of newsgathering.

Clement Y. K. So
School of Journalism and Communication, The Chinese University of Hong Kong, Hong Kong, Hong Kong
clementso@cuhk.edu.hk
https://orcid.org/0000-0001-6001-3725

Clement Y. K. So is Research Professor in the School of Journalism and Communication and Associate Dean for the Faculty of Social Science at the Chinese University of Hong Kong. His research areas include Hong Kong press, politics and sociology of news, and citation and content analysis.

Sahar Khalifa Salim
Media College, Aliraqia University, Baghdad, Iraq
Sahar_khalifa@aliraqia.edu.iq
https://orcid.org/0000-0003-0468-4537

Sahar Khalifa Salim is a professor at the Journalism Department of the Media College at Al-Iraqia University, Baghdad, Iraq. Her research interests include digital media education, investigative journalism and propaganda.

Mostafa Movahedian
Department of English Language and Translation Studies, University of Applied Science and Technology, Iranian Academic Center for Education, Culture, and Research, Mashhad, Iran
movahedian@gmail.com
https://orcid.org/0000-0003-4462-626X

Mostafa Movahedian is a researcher and a lecturer at the University of Applied Sciences and Technology, Iranian Academic Center for Education, Culture, and Research. His main research interests are at the intersection of media and language, media literacy, and critical thinking and pedagogy.

Jana El Amin
Institute of Media Research and Training, Lebanese American University, Beirut, Lebanon
jana.elamine@lau.edu
https://orcid.org/0000-0002-8487-4578

Jana El Amine is an MA in Multimedia Journalism student and a research assistant at the Communication Arts Department at the Lebanese American University. Her research focuses on news framing, selective exposure, and selective avoidance during protests in Arab and Lebanese media.

Jad Melki
Institute of Media Research and Training, Lebanese American University, Beirut, Lebanon
jmelki@lau.edu.lb
https://orcid.org/0000-0003-4248-1597

Jad Melki is associate professor of journalism and media studies and director of the Institute of Media Research and Training at the Lebanese American University. His research is at the intersection of media literacy, conflict journalism, media and war, and gender studies in the Arab region.