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2021

Wong, C. K. P., Zhu, R., Krever, R. & Choi, A. S. (2021). The impact of “manipulated news” on student attitudes and perceptions and their participation in the Umbrella Movement in Hong Kong. *Social Media and Society*, 7(2).

<https://dx.doi.org/10.1177/20563051211019715>

<https://hdl.handle.net/10356/151951>

<https://doi.org/10.1177/20563051211019715>

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# The Impact of “Manipulated News” on Student Attitudes and Perceptions and Their Participation in the Umbrella Movement in Hong Kong

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Social Media + Society  
April-June 2021: 1–11  
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sagepub.com/journals-permissions  
DOI: 10.1177/20563051211019715  
journals.sagepub.com/home/sms  


## Abstract

While the impact of fake news on viewers, particularly marginalized media users, has been a cause of growing concern, there has been little attention paid to the phenomenon of deliberately “manipulated” news published on social media by mainstream news publishers. Using qualitative content analysis and quantitative survey research, this study showed that consciously biased animated news videos released in the midst of the Umbrella Movement protests in Hong Kong impacted on both the attitudes of students and their participation in the protests. The findings raise concerns over potential use of the format by media owners to promote their preferred ideologies.

## Keywords

news framing, animated news, manipulated news, news and student protests

## Measuring the Impact of Manipulated News

The growth of “fake” news distributed on social media platforms in recent years has prompted concern in many quarters about the enhanced ability of fringe groups and marginal political elements to sway public thought and actions through thoroughly false claims (Spohr, 2017). Receiving less attention, unfortunately, has been the phenomenon of deliberately “manipulated” or “enhanced” news published on social media by mainstream news publishers. In contrast to fake news, a concept embodying stories of events or conspiracy theories originating from social media users, manipulated news is generated by mainstream news organization and reports on actual events, but uses technology such as animation to present a version of the events that might deviate significantly from the actual happenings.

The most significant example of this in recent times was the creation of animated news videos published by the media arm of *Apple Daily*, the largest circulation newspaper in Hong Kong (HK), in the midst of the Umbrella Movement protests led by HK students seeking universal suffrage elections for local chief executives (Iyengar, 2014). The animated videos published by the newspaper’s media subsidiary, Next Media Animation (NMA), were unabashedly promoting consistently positive frames of the

protesters and consistently negative frames of the government, police and counter-protesters. The potential for press owners with strong political views to influence the political activities of a significant population group has always been a topic of interest to journalism scholars (Noam, 2016), but the issue takes on greater importance if an owner extends the reach of his or her newspaper through the use of transparently artificial and manipulated news animations. This article considers whether the manipulated news created by NMA played a role in molding the views of university students, the most significant cohort among the protesters, and promoting their participation in the demonstrations.

The starting point for conventional news reports is the actual events that took place. A range of techniques is then used to create image frames in the reports of those events. In

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contrast, the creators of animated news stories may start with unverified versions of events and then blur the lines between facts and imagination (Boykoff, 2010) by infusing the story with “imagination” and misinformation (Cheng & Lo, 2012, p. 135) to create a new and derivative news report.

One view might be that animated news videos, by reason of their format as artificial images, would be received by audiences, particularly university students who may be more highly educated than a large part of the population, with more skepticism than other news reports. On the contrary, the producer’s control over the story and presentation may make manipulated images more persuasive to this audience.

This is not the first study published on the impact of animated news videos on student viewers. An earlier study sought to test the impact using experimental techniques (Cheng & Lo, 2015). This study, in contrast, is based on interviews outside the context of a controlled experiment of university students, the most active participants in the protests. Most in the group were born after 1 July 1997 and had, consequently, lived all or most of their lives under Chinese rule over HK (Augustin-Jean & Cheung, 2018, p. 1).

The newspaper responsible for the NMA animated videos, *Apple Daily*, is famous for its sensationalist news and critical attitude toward the Beijing government (Chew, 2015). Its owner, Jimmy Lai, has acknowledged that he is first and foremost a businessman and the anti-Beijing line taken in his press sold newspapers (McCargo, 2003). He personally participated in the Umbrella Movement, was more recently arrested for taking part in pro-democracy demonstrations, and freely admits the link between his views and those espoused in his newspaper: “I hold a position in the newspaper, or the media, that it is an extension of myself” (Awai & Lo, 2016).

## The Umbrella Movement

The Umbrella Movement in HK evolved in response to the announcement of the central government of the People’s Republic of China in Beijing in May 2014 that the appointment of Chief Executive of HK would be decided by a limited electorate considering a candidate put forward by a controlled nomination committee. Beijing’s interest in ensuring that a potentially non-compliant politician could not be elected as the HK Chief Executive (Lee, 2015) generated opposition by a significant part of the HK community (J. Chan, 2014) which sought universal suffrage by the time of the subsequent election in 2017.

The political atmosphere quickly became tense and in late September 2014 students started to demonstrate outside the HK Government head offices in the Admiralty district. Soon the number of protesters grew, spreading to two other districts, Mong Kok and Causeway Bay. The movement gained the name Umbrella Movement because the protesters tried to use umbrellas to protect themselves when police used batons, pepper spray, and tear gas (on one occasion) to disperse the crowds (MacLeod, 2014). Students remained at the forefront

of the movement at all times. They had two demands for the government, which were to allow a full-fledged universal suffrage system for selection of the Chief Executive in 2017 and to ensure that then Chief Executive CY Leung stepped down. The protests continued for 79 days and 1.2 million Hong Kongers (of the Special Administrative Region’s total population of 7.2 million) took part in the demonstrations (Rühlig, 2017).

## Framing Theory

The impact of NMA news on the attitudes, perceptions, and behavior of HK students can be understood within the context of news “framing,” a multifaceted concept central to understanding the aim and impact of news media (Franczak, 2019, p. 97). At the input stage, there is the notion of “image frames,” the presentation of selective aspects of perceived reality to attract the attention of the audience and reorient its thinking about an issue (Entman, 1993; Scheufele, 1999); or the presentation of facts fully, but in a manner that yields a “framing effect” that leads the reader or viewer to see the facts in positive or negative terms (Zhen & Yu, 2016).

The second element of framing comprises the product of image frames and framing effects, the actual positive or negative images conveyed in news articles, commonly described as the “valence frames,” that affect readers’ or viewers’ perceptions. As Dan (2018) explains, frames both organize and simplify facts to identify problems and perhaps propose solutions.

The third element of framing, framing reaction, may be the most important as readers or viewers not only digest the story but react to the frames it projects. The process of shaping the meaning of a story is directly tied to the audience’s interpretation of the news (Hallahan, 1999; Price et al., 1997). The more noticeable, meaningful, and memorable the way in which frames are presented, the more salient the news items are to the audience. The salience of media coverage that prompts viewers to remember particular news frames can lead to corresponding cognitive, attitudinal, or behavioral outcomes (Borah, 2011; Entman & Herbst, 2001; Knüpfner & Entman, 2018; Scheufele, 1999). The last of these may be the most important—framed the right way, news can prompt action (Cacciatore et al., 2016).

Animated news videos may be particularly effective at creating intended framing reaction because of the presenter’s total control over all aspects of the message—from setting the story in the first place and manipulating the context to create the desired valence frames. In the right hands, the medium can be beneficial, raising needed awareness of public issues (Chen & Lin, 2017). In other hands, it can be used to pursue narrower ideological or political aims.

Framing theory and the impact of traditional media or social media in the form of animated news videos intersects with theories on individuals’ perceptions, attitudes, and behavior generally in respect of political participation. Scholars have identified a link between social media and political participation (M. Chan et al., 2017), but the relationship is still a matter of study. It has, for example, been shown

that online media promotes political engagement (Adegbola & Gearhart, 2019), with internet messaging augmenting sympathy for participation in protest (Sweetman et al., 2019). It seems, too, that the impact is strongest among those persons already inclined to participate in campaigns (Wilkins et al., 2019). The present study is designed to contribute to this growing field of research.

A distinction must be made between two aspects of viewers' responses to frames in animated media or social media more generally: the viewer's "perception" of the story and their consequent "attitude." The former refers to the manner in which viewers might organize, identify, and interpret the information they receive (Schacter et al., 2009; Ward et al., 2015), while the latter is the positive or negative (favor or disfavor) evaluation they make in response to the information (Eagly & Chaiken, 1993). The content analysis process described below explains how the news videos were designed to selectively impact viewers' perceptions while the survey results reflect the attitudes subsequently formed by viewers.

## Study Objects and Methodology

This study is based on the distribution of animated news videos to a selected viewership group and a survey of the viewers to determine reactions to the materials viewed. It was known that the links between attitudes and perceptions shaped by media framing and the consequent political behavior of individuals (Hartmann et al., 2019) are enhanced by the qualitative character of news frames and presentation variables (Bracken, 2006). Frames that portray social protest as a noble cause, for example, result in larger protest waves (Cooper, 2002). The three presentation variables of simulated television news—the "animated visual presentation, the detailed account of the animated news event and the audio element" (Cheng & Lo, 2012, p. 136)—have the potential to enhance significantly the framing effect.

To answer the primary research question—did NMA videos influence students' participation in the umbrella movement—the researchers developed three hypotheses:

*H1.* Student viewers of NMA videos would hold attitudes that were different from those of non-viewers about the aims of the Movement, the police, government, and opponents of the protests.

*H2.* Student viewers of NMA videos would have different levels of participation in the Movement from non-viewers.

*H3.* The greater exposure student viewers had to NMA videos, the greater would be their participation in the Movement.

The study employed a mixed-methods research approach. The first step was a qualitative content analysis of five animation news videos to evaluate how the NMA videos framed four critical incidents in the Umbrella Movement. A coding

sheet was developed and two experienced coders were responsible for the coding with full testing of inter-coder reliability.

The selection of five target videos used in the study was a two-step process. Animated news videos were published on a daily basis over the course of the Movement (on some days more than one video was produced). The study sought the five most influential videos which were chosen on the basis of the number of views and the number of viewers' comments posted. No weighting between the two factors was needed because comments corresponded to the number of views.

Unsurprisingly, three of the videos attracting most attention were those covering three action-filled days. The remaining two covered two aspects of the same issue, the government's response. By that time, viewers were hungry for information on how the government would react and two videos dealing with the government's critical and defining responses were both widely viewed and prompted a high rate of responses.

The next step was a quantitative survey research study, using the findings from the content analysis, to determine how the news framing of the event influenced students' attitudes toward and participation in the Movement. The independent-sample *T* test was adopted to distinguish the differences in attitude to, and perception of, the Umbrella Movement between viewers and non-viewers of animated news videos and to assess the relationship between animated news videos viewership and participation in the Movement. A multiple regression model was constructed to explore the linkage between an individual's attitude toward and perception of the Movement and the individual's level of participation in it.

To capture responses accurately and avoid distortions caused by recollections modified by later experiences, the study limited survey data collection to a 2-week period conducted at all eight public universities in HK. Two recognized conventional sampling techniques were used: convenience and snowball sampling. Additional steps used to ensure random sampling included collection across all areas of each campus and collection from early morning until mid-evening. The sample size satisfied the sufficient standard error of proportion criterion to yield confidence that the impact of videos on viewers can be ascertained with sufficient accuracy. Survey results were verified with random selective interviews.

## Content Analysis

Content analysis of five videos on four critical incidents was conducted (Table 1) to answer the first research question: what frames are used in videos concerning the four incidents. These four incidents represent the four important stages of the Umbrella Movement: (1) the reclaiming of Civic Square on 26 September 2014, which marked the beginning of the Movement; (2) 2 days later, the police firing of tear gas to

**Table 1.** NMA Animation Videos Sampled.

Critical incident	Report date	Duration	Video title
Reclaiming Civic Square	27 September 2014	02:43	The crazy police beat students with sticks and dragged female students away.
Use of tear gas	29 September 2014	03:06	In a horrifying night, the students were dispersed but they rallied again.
Mong Kok conflict	4 September 2014	03:09	Holding Mong Kok depended on endurance. Rioters instigated the protestors many times.
Dialogue with government	21 October 2014	02:43	Carrie Lam refused to compromise.
	21 October 2014	02:22	Carrie Lam used faked tactics, but students refused to retreat.

clear protesters from the Square, which led to public criticism of the police and wider participation in the Movement; (3) a series of conflicts between protesters and opponents of the protesters from 3 to 6 October at Mong Kok, one of the key sites occupied by protesters, and (4) the holding of talks on the universal suffrage issue on 21 October between the HK government and five representatives of the Hong Kong Federation of Students (HKFS).

Framing analysis of the five animation news videos on four specific incidents in the Umbrella Movement revealed four main themes: (1) the righteous nature of the Movement and its aim of protecting the future of HK; (2) a negative frame of the police; (3) a negative frame of counter-protesters, and (4) a negative frame of the HK government. These were used to design a questionnaire that would test the degree to which students' perceptions and attitudes toward the police, the government, and the counter-protestors aligned with the frames in the animated news videos.

### *Critical Incident 1: Reclaiming of Civic Square*

On 26 September 2014, students attempted to gain access to Civic Square (the name given to the east wing forecourt of the Central Government Offices in Admiralty), a popular protest site, by clambering over the fence that had been erected to keep protesters out of the public space. That evening, an increasing number of HK residents voluntarily made their way to the area around the square to support the students. NMA videos on the incident presented two frames: violent police as perpetrators versus fragile students as victims, and government as a liar.

*Violent Police as Perpetrators Versus Fragile Students as Victims.* Police were portrayed as using force casually in the video, exemplified by dramatic pictures in which police sprayed pepper spray on students from close range, punched protesters in the face, and elbowed them. The voiceover enhanced the violent police image: "The riot police regard the defenceless students as their enemy" and "Even the Deputy Commander of Central District joined in the police effort to dispel students." Conversely, students were depicted as fragile victims, seriously hurt by the police. Sensationalist pictures depicted students falling and bleeding, faces showing painful emotions, with a soundtrack of screaming and

crying sounds accompanied by tense background music that highlighted the suffering and fragility of the students.

*Government as a Liar.* The HK government was framed as not trustworthy. Two pictures shown successively at the end of the video stressed that the government was lying to the public: the Chief Executive's promise of never mobilizing riot police and using tear gas on protesters was clearly broken in the clashes between riot police and protesters. The voiceover, in a humorous tone, asked, "Did CY Leung tell lies in the first place? Everyone knows," unambiguously presenting the government as a liar.

### *Critical Incident 2: Use of Tear Gas*

Following the successful effort by students to reclaim Civic Square, from the night of 26 September to the morning of 28 September 2014, the crowds grew consistently larger in Admiralty, the district around Civic Square. On Sunday, 28 September, the police fired tear gas to disperse thousands of protesters near the Central Government Complex. However, after 87 rounds of tear gas, the crowds remained on the roads. The framing analysis of video news regarding the usage of tear gas revealed three themes: protesters as righteous protectors of HK's future, the police as the enemy of the public, and the government as dictatorial.

*Protesters as Righteous Protectors of HK's Future.* Pictures of a large number of protesters accompanied by a voiceover, suggesting that, "It's time for us to protect the future of Hong Kong. The young generation is the future of Hong Kong. I have to come out," projected an image of protesters seeking a better future for every Hong Konger.

*Police as the Enemy of the Public.* In contrast with images of righteous protesters, animation news frames created with both visual and audio effects portrayed the HK police as the enemy of the public. One news clip, for example, showed the riot police using shields and batons to push back protesters when the protesters tried to persuade the police, with a background voiceover, in a disappointing tone, stating, "There will be only more violence after gentle persuasion."

Another police cruelty frame showed pictures of police walking on the road in full riot equipment, armed with rifles

and lining up in rows, sharply contrasting with a single, middle-aged woman kneeling down crying and begging the police to stop. The individual woman was portrayed like the famous Tiananmen Square tank man, labeled a “defenceless citizen” confronted by heavily armed authority. The dramatic impact is heightened with emotive background music.

*Government as Dictatorial.* Frames of police cruelty also supported a related frame of the HK government as a dictatorial body. Visual images of government forces using violence to oppress protesters, coupled with images of citizens scattering under the thick smog expressing both anger and disappointment and a background audio of screaming and horror music reinforced descriptions of HK becoming a “totalitarian state” not hesitating to “throw tear gas on its citizens.”

### *Critical Incident 3: Mong Kok Conflict*

Police efforts to disperse the university students in Admiralty (the Civic Square) by tear gas failed and, as the occupation continued, other students joined by working class protesters such as freight drivers began an occupation of the Mong Kok area (Wang et al., 2017). Unlike the Admiralty occupation, the Mong Kok occupation provoked opposition from some local residents and shopkeepers that eventually erupted into a series of conflicts between protesters and the opponents.

NMA’s news videos framed the Mong Kok conflict in three themes: the unfruitful opposition by counter-protesters, police partiality for the counter-protesters, and excessive tactics against peaceful demonstrators used by counter-protesters.

*Unfruitful Opposition by Counter-Protesters.* The counter-protesters’ unsuccessful opposition to the Umbrella Movement was shown through the muffled voice of counter-protesters contrasted with loud announcements from the protesters. Visual images of proud, dignified, and patient protesters passed in slow motion, offset by an image of a middle-aged woman unreasonably blaming the protesters for disrupting the public environment. Mysterious background music complemented absurd accusations by the counter-protesters.

*Police’s Partiality for the Counter-Protesters.* The primary NMA video news clip framing police partiality for the counter-protesters showed police escorting counter-protesters arriving at the protest sites through crowds, with a voiceover describing the impact of policy partiality: “Surrounded by a massive group of police, no wonder he can drive dangerously.” Another voiceover highlighted police inaction when protesters were faced provocation by the counter-protesters: “Without the help from police, protesters fight against the troublemakers by themselves.” Humorous background music was used to create an atmosphere of heavy irony and sarcasm to support the frame of police failing to act impartially.

*Excessive Tactics Used by Counter-Protesters Against Peaceful Demonstrators.* The frame of excessive tactics used by

counter-protesters against peaceful demonstrators in the NMA video news was developed using language and actions of counter-protesters: constant provocation by speaking foul language, intentional vandalism such as cutting tents with knives, destruction of public facilities, and beating the protesters. In the images, the actions of counter-protesters went well beyond constraint of protesters, they also created a violent image in the protest sites.

The negative framing of counter-protesters was augmented by the use of news videos indicating counter-protesters had been bribed to make trouble, with one scene showing a counter-protester’s refusal to answer questions about how much money he had received when confronted by a group of protesters. Exciting background music was deployed to heighten the impact of NMA videos framing the counter-protesters as troublemakers.

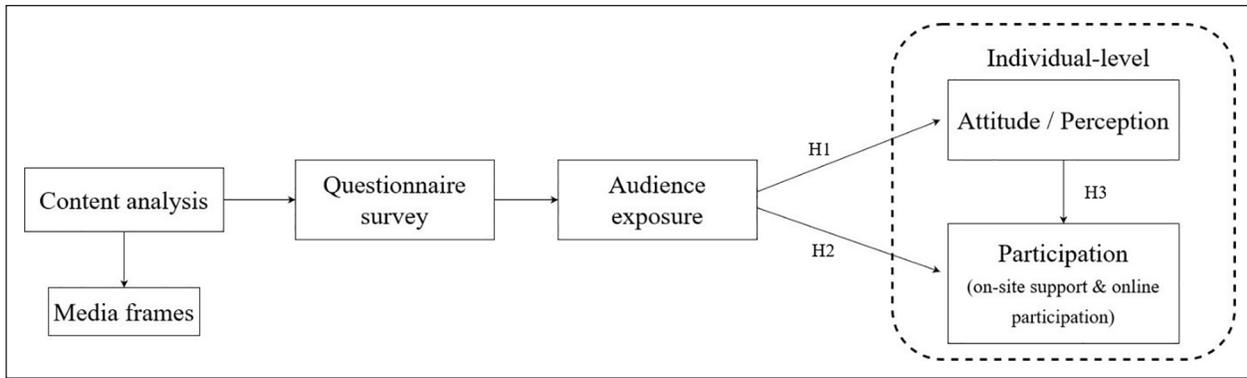
### *Critical Incident 4: Dialogue With Government*

As the massive demonstrations paralyzed large areas of HK, government officials held a dialogue with student leaders on live television on 21 October 2014. During the 2-hr meeting, students tried to negotiate for a more democratic election system, but the government refused any compromise. The NMA videos of the incident portrayed the government as unresponsive and irresponsible.

The framing of the government in this way was developed in NMA videos likening the discussions between student representatives and government officials to a soccer game officiated by a biased referee (the host of the meeting) and full of fraud and match fixing. Visually, a large clipart image of a recorder was used to suggest that Hong Kongers needed nothing but a recorder to follow the negotiation process because the government only repeated what had already been said before. Humorous voiceovers such as “Officials keep kicking the ball away” were used to develop the frame that the government officials adopted a time-wasting tactic by showing how officials dodged students’ questions and ignored their requests. The inequality between the parties was stressed with commentary such as, “When talking about the entry level of Chief Executive, the referee seems to make an unfair call.” The voiceover continued, “Leung [the chief executive] is unwilling to make concessions,” offering only “tricks” as solutions.

## **Survey Method**

The impact of the four frames on students’ attitudes and perceptions toward, and participation in, the Umbrella Movement was determined in two steps. In the initial stage, content analysis was used to identify the four frames and attribute news videos to each frame. In the second stage, surveys were adopted to record first whether students viewed the news videos and second, for both viewers and non-viewers, their attitudes, perceptions, and participation. Attitudes were defined as favorable or unfavorable evaluations of a



**Figure 1.** Modeling the relationship between media framing and individual-level outcomes.

particular entity or group (Eagly & Chaiken, 1993), in this case police, government, and counter-protesters. Perceptions were defined as interpretations of information to understand the environment (Schacter et al., 2009), in this case perceptions of the aims of the Umbrella Movement and the effect of protests. Two forms of university students' involvement (on-site support and online participation) are indicators of their participation in the Umbrella Movement (Figure 1).

### Sample and Procedure

The empirical data were collected through a structured self-administered questionnaire written in traditional Chinese characters. The questionnaire comprised four parts: (1) students' viewership of NMA news videos, and (2) to (4) their attitudes and perceptions of, and participation in, the Umbrella Movement. The survey was completed in March 2015, shortly before 3 months after the last events in the Umbrella Movements. Completed surveys were collected from 212 students from different universities in HK.

The respondents were 66% female, 51.2% third-year students, 76.4% living off campus, and 81.2% between the ages of 20 and 23 years. A sizable minority (44.5%) were social science majors with the rest fairly evenly distributed between other majors. Questions were designed to measure student viewers' awareness of NMA videos, their exposure to the videos, their perception of the aims of the Movement, their attitude toward police, their attitude toward the government, their attitude toward counter-protesters, and their participation in the Movement. Further questions distinguished viewers from non-viewers and the frequency of viewing NMA videos.

Four statements were used to measure students' views of the "protecting Hong Kong's future" frame, nine to measure students' attitudes toward the HK police, four to measure students' attitudes toward the government, and five items were designed to measure students' attitudes toward counter-protesters.

**Attentiveness: Viewers Versus Non-Viewers.** Two questions were used to distinguish viewers from non-viewers: "Have

you watched the news about the Movement on NMA?" and "Have you watched the news about the four incidents on NMA: (1) students reclaiming the Civic Square; (2) HK police used teargas to disperse protesters; (3) the conflicts in Mong Kok occupied area; and (4) the talks between senior officials and representatives of HKFS?"

**Exposure: Monthly Frequency.** The question used to determine the frequency of viewing NMA videos offered six choices: (1) never; (2) 1 time per month; (3) 1 time per week; (4) 2–3 times per week; (5) 4–5 times per week; and (6) every day. The scales were recoded into interval data on a monthly basis for the purposes of the analysis: *Never*=0; *1 time per month*=1; *1 time per week*=4; *2–3 times per week*=10; *4–5 times per week*=18; *every day*=30.

**"Protecting Hong Kong's Future" Frame (Perceptions of the Aims of the Movement).** Four identifiers were used to measure students' views of the "protecting Hong Kong's future" frame. A high Cronbach's alpha at .900 indicated a high internal consistency. A 5-point scale was used to collect data on the extent to which respondents agreed or disagreed with the four identifiers. All four items were reverse recoded for the final analysis. The higher the score, the more supportive the students' attitudes were toward aims of the Movement.

**Violent Police Frame (Attitude Toward the Police).** Nine statements (Cronbach's  $\alpha = .898$ ) were used to measure students' attitudes toward the HK police. Scores of two items, "HK police maintain the social order" and "HK police spare no effort to perform their duties in the Movement," were reverse recoded for the final analysis. A higher score implies a more favorable attitude toward the police force. Seven further items were coded directly in terms of negative attitudes. These were "HK police use of pepper spray for dispersing the public gathering is unreasonable," "HK police use of batons for dispersing the public gathering is unreasonable," "HK police use of teargas for dispersing the public gathering is unreasonable," "HK police are the enemy of the public," "HK police are partial to counter-protesters," "HK police

**Table 2.** Scale Items of Attitude Toward Government.

Number of items	4
Cronbach's $\alpha$	.885
Items:	
1.	HK government refuses to respond to students' demand
2.	HK government disregards the protest activities
3.	The movement is a response to the dictatorship of HK government
4.	The responses from HK government are disappointing

Responses: 5-point scale (1 = *strongly agree* and 5 = *strongly disagree*).

**Table 3.** Scale Items of Attitude Toward Counter-Protesters.

Number of items	5
Cronbach's $\alpha$	.867
Items:	
1.	Counter-protesters express their discontent reasonably <sup>a</sup>
2.	Counter-protesters use verbal provocation in occupied areas
3.	Counter-protesters destroy the occupied areas intentionally
4.	Counter-protesters beat up the protestors
5.	Counter-protesters are bribed to oppose against the movement

Responses: 5-point scale (1 = *strongly agree* and 5 = *strongly disagree*)

<sup>a</sup>Recoded reversely.

join force with the triad to resist the protestors," and "To conclude, HK police's methods to handle the movement is not reasonable."

*Irresponsible Government Frame (Attitude Toward the Government).* Students' attitudes toward the government were measured by four items (Table 2). The higher the scores, the more positive the attitudes the students have toward the government.

*Troublemaker Counter-Protester Frame (Attitude Toward Counter-Protesters).* Five items were designed to measure students' attitudes toward counter-protesters (Table 3). The score of one statement, "Counter-protesters express their discontent reasonably" was reverse recoded. The higher score reveals the more negative attitude the students held toward the counter-protesters.

### Participation in the Movement

Both online and onsite participation were considered to constitute students' participation in the Umbrella Movement,

exemplified by four specific forms (Cronbach's  $\alpha = .746$ ): posting photos of the Movement on social networking sites, supporting the protesters onsite, being a volunteer in the occupied area, and supporting the Movement through personal creation (composition of a piece of music, drawing of a painting or writing articles).

### Survey Results

A vast majority, 78.3% of 212 respondents, were viewers of NMA videos about the Umbrella Movement. Three-quarters of these viewers had watched NMA videos on the "usage of tear gas" incident, followed by 71.7%, 65.6%, and 50%, respectively, for videos on "the Mong Kok conflict," the "reclaiming of Civic Square" and "dialogue with the government" events, respectively. The first result of note was the extent to which viewers ( $\bar{x}_1 = 15.70$ ,  $SD = 2.62$ ) tended to regard the aims of the Movement as more righteous than did non-viewers ( $\bar{x}_2 = 14.38$ ,  $SD = 3.22$ ) (Table A1, Appendix). Significant differences in attitude toward police ( $MD = -3.35$ ,  $p \leq .01$ ), government ( $MD = -2.90$ ,  $p \leq .001$ ), and counter-protestors ( $MD = -1.95$ ,  $p \leq .001$ ) between viewers and non-viewers suggests that the viewing of NMA videos about the Movement showed viewers' holding less positive attitudes toward the police, government, and counter-protestors than non-viewers. The results suggest that university students adopted views similar to those set out in NMA frames after watching its videos.

The results of the study were for the most part consistent with the first hypothesis, that attitudes toward the Movement, police, government, and counter-protestors differed between the cohort that viewed NMA videos and those that did not. There were three results inconsistent with this assumption, however. The first departure was the influence of the video on the first incident (reclaiming Civic Square), in respect of attitudes of respondents toward the aims of the Movement, where the difference between viewers ( $\bar{x}_1 = 15.61$ ,  $SD = 2.71$ ) and non-viewers ( $\bar{x}_2 = 15.04$ ,  $SD = 2.96$ ) was not statistically significant. This might be because the first incident occurred at the very initial stage of the Movement when university students had only watched a few NMA videos and still had no clear idea of what was happening.

The second departure from the initial hypothesis was the impact of videos on students' attitudes toward the Umbrella Movement and the HK government after the fourth incident, the dialogue with the government. Once again, there was no significant difference between viewers ( $\bar{x}_1 = 15.77$ ,  $SD = 2.54$ ) and non-viewers ( $\bar{x}_2 = 10.61$ ,  $SD = 4.24$ ) with regard to their views about the aims of Movement or HK government. The explanation for the discrepancies may be temporal, the "dialogue with government" incident taking place during the last stage of the Movement. Prior to that, viewers had been continuously cultivated by the negative frames of the government on the NMA animation news. Their unfavorable attitude toward the government had

apparently stabilized after the initial videos, with comparable scores 9.79 ( $SD=3.32$ ), 9.63 ( $SD=3.26$ ), and 9.84 ( $SD=3.36$ ) for viewers after the reclaiming of Civic Square, use of tear gas, and dialogue with the government incidents, respectively. At the same time, it is possible that the attitudes of non-viewers shifted in a negative direction over time, dropping dramatically from 12.02 ( $SD=12.02$ ) to 10.61 ( $SD=4.24$ ), as knowledge spread more generally in the territory from other media and discussions with family members and peers. The mean scores of non-viewers dropped noticeably after the “use of tear gas” incident and remained closer to that of viewers after the last incident.

The test to compare viewer participation in the Umbrella Movement with that of non-viewers of NMA videos revealed different participation patterns (Table A2, Appendix). Overall, viewers ( $M=8.18$ ,  $SD=13.59$ ) had participated nearly 2.5 times more frequently than non-viewers ( $M=3.53$ ,  $SD=10.33$ ) monthly. The difference was consistent across all four critical incident videos. In particular, the participation rate of viewers of videos on the “use of tear gas” ( $MD=4.54$ ,  $p \leq .05$ ), “Mong Kok conflict” ( $MD=4.98$ ,  $p \leq .05$ ), and “dialogue with government” incidents ( $MD=3.83$ ,  $p \leq .05$ ) was double that of non-viewers. A comparison of participation rates following the Reclaim of Civic Square video showed the average participation rate of viewers ( $\bar{x}_1=8.29$ ,  $SD=14.08$ ) was higher than that of non-viewers ( $\bar{x}_2=5.07$ ,  $SD=10.76$ ), but the difference is not statistically significant. The small difference may reflect the time of the event in the early stage of the Movement, when university students had neither watched many NMA videos, nor had a clear idea of what was happening.

A multiple regression analysis was designed to analyze the relationship between students’ attitudes and perceptions and their participation in the Movement (Table A3, Appendix). The results revealed that two of four predictors (exposure to Next Media Animation, attitude toward aims of Movement, attitude toward police, and attitude toward government), were statistically significant ( $p \leq .01$ ). Students’ participation in the Movement was positively related to their exposure to NMA ( $B=.223$ ) and negatively linked to attitude toward police ( $B=-.618$ ), with the most significant prompt for participation in the Movement their dissatisfaction with the police. In other words, university students’ participation in the Movement correlated with viewing of NMA videos and consequent unfavorable attitude toward the police, rather than to a positive perception of the aims of the Movement and disappointment with the government.

## Lessons From the Findings

The findings in the study indicate animated news videos had an impact on students’ perceptions of the Umbrella movement and in many cases helped to crystallize attitudes, prompting action by the viewers. There was evidence to support the three operative hypotheses developed by the researchers. It seems student viewers of NMA videos held

attitudes which were different from those of non-viewers about the aims of the Movement, the police, government, and opponents of the protests. Student viewers of NMA videos had different levels of participation in the Movement from non-viewers. And finally, the greater exposure student viewers had to NMA videos, the greater was their participation in the Movement.

While the findings are consistent with those of previous studies about the efficacy of animation in enhancing audiences’ perceptions, a deeper dig into the data reveals some important nuances in the case of animated news. In line with previous research findings, the study suggests that like other forms of social media, animated news is more likely to reinforce preconceptions and prompt action by persons already holding views that may be precursors to action rather than mobilize the completely uninitiated (Oser & Boulianne, 2020). Although video news viewers tended to hold negative images of the police, government and counter-protesters similar to those framed by the NMA videos, and were more likely than non-viewers to participate more in the movement, in harmony with the anti-police tone of NMA videos, the most negative attitudes of viewers was directed at the HK police. The survey and in-depth interview also suggested that dissatisfaction with the police was the most cited prompt for participation in the Movement. Government officials were likely remote from students’ experiences, but many witnessed, experienced directly, or knew of friends or colleagues who had experienced clashes with the police. The findings were thus consistent with previous studies on the reinforcement effect of both social media and online news on previously held views (Adegbola & Gearhart, 2019; Wilkins et al., 2019).

## Implications of the Findings

The efficacy of animation in scientific, disastrous, war, and accident news lies in the fact that the animation helps audience to visualize the missing parts of events which would not have otherwise been known by audience, that is, the expansion of new knowledge promotes the change of perception and attitudes of audiences (Cheng & Lo, 2012). In contrast, the NMA animations at the heart of the current research were not intended to provide objective independent information to fill in gaps. To the contrary, they were created deliberately to fit into viewer’s previous perceptions, to foster particular attitudes and to provide action consistent with the views and actions of Jimmy Lai, the owner of NMA. The study suggests they achieved their intended effect.

The strong framing effect of animated news on students’ perception suggests those students were not skeptical about the truthfulness of the animated news content and instead incorporated the news frames directly into their own schemata to guide their further behavior. It could be said, thus, that the videos were preaching to the converted or, conversely, the messages reached a self-selected audience. The findings nevertheless raise an important ethical issue for further consideration. Unlike traditional media, and particularly

journalism, which is at least to some extent constrained by professionalism norms, manipulated animated news is created by technicians with animation skills but no media or communication ethos.

Leaders and others with access to the technology are thus well placed to exploit the influencing potential of animated news. Objective facts are less influential in shaping individuals' perceptions and attitudes than appeals to emotion and personal belief (Bucher, 2018, p. 118; Martel et al., 2020) and manipulated news can be an effective tool of persuasion, particularly if it is designed to complement existing beliefs. In the future, its power may be further enhanced if the creators combine manipulated animated news with the power of algorithms to feed different versions to different audiences (Drunen et al., 2019). Animated news created during the Umbrella Movement protests was directed against the government and its actions. It might prove even more effective if used by a government against its opponents and critics.

### Caveats, Provisos, and Identified Limitations

The findings of this study must be read in the light of several identified limitations. The most significant, in the focus of the regression analysis on one possible influence on behavior, making it difficult to establish definitive cause and effect relationships. While students reported participation *after* viewing animated videos, they were not asked about all other possible influences on behavior. The study, for example, only looked at one form of news media. Viewers of NMA videos had access to a range of other types of news media including television, newspapers and the internet and the researchers did not attempt to compare the relative weighting of other media influences. Also not measured was the impact that participants' previous experiences, peers and family members may have had on their attitudes and perceptions and participation in the Umbrella Movement. All three of these factors are known to impact the attitude and perceptions of an event (Neuman et al., 1992). Finally, the framing effect of animated news was tested in the context of university students living in a geopolitical environment. Participants from other cultural backgrounds and other demographic groups may react to animated news differently.

### Future Research

The findings in this study suggest three paths for future research. At the top of the list would be studies of the ethical issues raised by animated news reports and in particular the inclusion of imaginative elements probably incompatible with objective reporting and the risk of abuse to promote ideology. Second, future studies using news viewers enjoying different demographic characteristics from different geopolitical environments would show whether the findings travel outside the one historical event in a unique jurisdiction. Third, mixed methods including both quantitative and qualitative

analyses could be used to provide more nuanced and richer results concerning readers' decoding process when watching a particular media set. Finally, a survey could be supplemented with research experiment methods to elucidate influences from other sources such as peer communication.

### Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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## Appendix

**Table A1.** Comparing Attitude/Perception of Viewers and Non-Viewers of NAM Video Clips.

	Viewer		Non-viewer		T	M Difference
	M	SD	M	SD		
News about movement						
Aims	15.70	2.62	14.38	3.22	2.85**	1.32
Police	22.39	6.00	25.74	7.43	-2.81**	-3.35
Government	9.60	3.28	12.50	4.77	-3.88***	-2.90
Counter-protestors	11.07	3.61	13.02	3.47	-3.26***	-1.95
Impacts	9.95	2.17	10.87	2.74	-2.07*	-.92
Reclaiming of Civic Square						
Aims	15.61	2.71	15.04	2.96	1.40	.57
Police	22.44	6.11	24.41	6.96	-2.12*	-1.97
Government	9.79	3.32	11.05	4.58	-2.09*	-1.26
Use of Tear Gas						
Aims	15.70	2.63	14.56	3.15	2.58**	1.14
Police	22.27	6.02	25.66	7.12	-3.38***	-3.39
Government	9.63	3.26	12.02	4.80	-3.38***	-2.39
Mong Kok conflict						
Aims	15.77	2.65	14.51	3.00	2.99**	1.26
Police	22.42	5.92	24.90	7.43	-2.31*	-2.48
Counter-protestors	11.13	3.60	12.42	3.69	-2.32*	-1.28
Impacts	9.93	2.23	10.69	2.51	-2.15*	-.76
Dialogue with the government						
Aims	15.77	2.54	15.06	3.02	1.87	.72
Government	9.84	3.36	10.61	4.24	-1.47	-.77

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

**Table A2.** Comparing Viewers' and Non-Viewers' Participation in the Movement.

	Viewer		Non-viewer		T	M Difference
	M	SD	M	SD		
Video clips of NMA	8.18	13.59	3.53	10.33	2.47*	4.64
Reclaim of Civic Square	8.29	14.08	5.07	10.76	1.69	3.22
Use of tear gas	8.31	13.84	3.77	9.85	2.18*	4.54
Mongkok conflict	8.59	14.08	3.61	9.36	2.50*	4.98
Dialogue with government	9.05	14.24	5.22	11.50	2.12*	3.83

Dependent variable: participation in movement.

\* $p < .05$ .

**Table A3.** Coefficients of Multiple Regression Model.

Variable	B	SE	T
(Constant)	12.11	9.01	1.34
Exposure to NMA	.223	.075	2.96**
Attitude toward aims of movement	.429	.391	1.10
Attitude toward police	-.618	.189	-3.26**
Attitude toward government	-.024	.391	-.061
F	13.84		
R	.468		
R <sup>2</sup>	.218		

Dependent variable: Participation in movement.

\* $p < .05$ , \*\* $p < .01$ .