

Do North Korean Social Media Show Signs of Change?: An Examination of a YouTube Channel Using Qualitative Tagging and Social Network Analysis

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This study examines the interplay between the reactions of YouTube users and North Korean propaganda. Interesting enough, the study has noticed changes in the strict media environment under young leader Kim. Messages delivered by the communist regime to the outside world appeared to resemble those of 'normal' countries. Although North Korean YouTube was led mainly by the account operator, visitors from different nations do comment on the channel, which suggests the possibility of building international communities for propaganda purposes. Overall, the study observed a sparsely connected social network among ordinary commenters. However, the operator did not exercise tight control over peer-to-peer communication but merely answered questions and tried to facilitate mass participation. In contrast to the many news clips, the

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documentary content on North Korea's YouTube channel did not explicitly advocate for North Korea's current political positions.

Keywords: North Korea; YouTube; propaganda; social media; network analysis

Introduction

In April 2018, South and North Korea adopted the Panmunjom Declaration. Article 2 Paragraph 1 of this agreement announces that South and North Korea have decided to cease all hostile activity on the ground, at sea, and in all other areas, including the air. However, whether cyberspace is covered by "all other areas" remains subject to debate. Under South Korea's National Security Law, online comments praising North Korea are illegal. North Korean authorities block dramas and songs produced in South Korea. Although there are potential legal issues with doing so, South Koreans can visit websites and social media run by North Koreans. North Korean videos are legal for South Koreans to view on YouTube but sharing them on social media is illegal. North Korea's propaganda YouTube channel, "Today's North Korea" (Korean pronounced "Chosuneui Eoneul"), has been in operation since December 2014 and has over 10,000 subscribers. However, North Korea is often called the "Hermit Kingdom" and a "rogue nation" both offline and online (Lee & Hwang, 2004; Warf, 2015).

Despite its seclusion from the rest of the world and its strict control of the Internet, North Korea, known as the "Hermit Kingdom" (Warf, 2015) has been actively using YouTube for propaganda purposes. Considering that access to YouTube is restricted in North Korea, the main target audience of videos uploaded to North Korean propaganda channels are foreigners, including South Koreans. After the Panmunjom Declaration, North Korea's propaganda patterns are likely to break away from the traditional pattern of advocating its ideological system. Social media such as YouTube opens a new way to interact with a wide variety of public, including governments, organizations and individuals (Ittefaq, 2019). Although the mediatized diplomatic communication of North Korea has been recently discussed (Sonnevend, 2019), scientific research on North Korea's online propaganda is minimal. Specifically, no study has yet examined the frequency and meaning of the words appearing in comments on and responses to YouTube videos uploaded by North Korean authorities.

This study aims to identify both the contents and the patterns of communication on North Korea's YouTube channel, "Today's North Korea." This research intends to gain insight into the interplay between North Korea's YouTube propaganda and the reactions of users through a scientific approach without any political bias. In the era of social media, it is worthwhile examining the use of YouTube in the Hermit Kingdom and the characteristics of North Korea's YouTube propaganda. Social media network analytics were applied for this study. It is a widely used methodology that is especially appropriate for examining rapidly changing social phenomena.

Social media analytics can enable researchers to conduct a systematic and in-depth investigation of a hermit regime like North Korea and contribute to the field of social media communication by elucidating obscure human and social phenomena.

Theoretical perspective and methodological choice

This study will examine the characteristics of propaganda and the patterns of communication on North Korea's YouTube channel. Taking a brief review of two approaches to propaganda research, the theoretical perspective of this study and the reason for the methodological choice will be discussed.

Propaganda research: Moralist and Neutralist Approaches.

Propaganda is generally used as a negative term to describe brainwashing activities by totalitarian political leaders like Hitler to deceive and manipulate people. However, so-called "the father of public relations" Edward Bernays (1928) indicated that propaganda can be used positively as well, to help society and businesses. As such, there are two theoretical approaches to propaganda research: moralist and neutralist (Cunningham, 2002).

The moralist regards propaganda as a social evil with an immoral nature that deprives people of freedom of thought through psychological coercion. Ellul (1962) defined propaganda as the expression of an organization's opinions or actions intended to achieve a specific purpose through psychological manipulation. In other words, propaganda is a technique designed to engage a socially integrated public in the policy of an organized force through psychological control. For this reason, Ellul (1962) noted that propaganda is prevalent not only in dictatorships and totalitarian states but also in all social systems where political power is sought. The moralist also emphasizes that the media play an important role in spreading negative propaganda. Lippman (1922) indicated that there must be some barrier between the public and an event for propaganda to be possible. Due to this separation, the media can manipulate events or intentionally convey limited information to the public through propaganda. Herman and Chomsky (1988, 2002) presented a propaganda model to explain how the media are tamed and controlled by power groups such as the government and conglomerates. They indicated that the media serve as a major propaganda tool for conveying and disseminating the ideas of power elites to the public.

On the other hand, the neutralist is interested in considering the information process and persuasive effect of propaganda rather than rendering a moral judgment. Laswell (1935) suggested that propaganda is a technique of manipulating collective behaviour through language, painting, and music without using violent methods. He pointed out that propaganda aims to form an attitude of liking or disliking something. Qualter (1962) defined propaganda as an activity designed to adapt the target audience to the specific needs of the situation. Specifically, propaganda intends to effectively influence and change the attitude of the target audience using communication tools. Doob (1966) argued that propaganda has been replaced by several terms that are unrelated to value judgment, such as "communication," "information," and "persuasion," because many propaganda researchers contribute to social development by embracing new communication technologies.

Jowett and O'Donnell (2012) argued: "Propaganda is not necessarily an evil thing. It can only be evaluated within its own context according to the players, the played upon, and its purpose" (p. 367). According to Jowett and O'Donnell (2012), propaganda differs conceptually from persuasion. Both propaganda and persuasion are communication activities aimed at changing people's attitudes; unlike persuasion, however, propaganda is a one-way communication process without a free exchange of ideas. Jowett and O'Donnell (2012) categorized the forms of propaganda using the colours white, black, and grey according to the authenticity of the source and the accuracy of the information. White propaganda comes from an identified source and conveys relatively accurate information, so it can build credibility. Public campaigns and diplomacy are examples of white propaganda. Black propaganda comes from a false or concealed source and intentionally disseminates lies, such as propaganda from terrorists and dictators. Radue (2019) critically examined black propaganda cases of political communication phenomena in Southeast Asia. Grey propaganda operates in the space between the white and black forms.

Controversial Points: Moralist vs. Neutralist.

Moralists and neutralists have differing perspectives on propaganda. Moralists consider propaganda as an unethical activity that manipulates and controls people, while neutralists regard propaganda as a communication technique that can affect people in several ways.

Moralists criticize neutralists for having a myopic view of propaganda as ethically neutral and ignoring the hidden intentions of the propagandists. Cunningham (2002) insisted that neutralist research deals with propaganda as if it consisted of impersonal messages, detaching them from human epistemic and ethical considerations, which are fundamental to human communication behaviour. He further argues that the focus of neutralist research on fragmentary persuasive effects ignores the fact that propaganda serves to deceive and manipulate the public.

Moralists also argue that unethical scientific research can contribute to negative propaganda strategies and produce anti-social consequences. Herman and Chomsky (1988, 2002) designed a propaganda model of the communication process of mass media, which convey the power elite's ideology to the public. Even in the age of social media, Herman and Chomsky's propaganda model can be applied to explain political and social phenomena. Social media are based on social-participatory communication; however, anti-social agendas—such as fascism, racism, terrorism, sexism, and extreme nationalism—delivered through social media, have emerged as a serious problem, and these can be explained through the propaganda model (Baugut & Neumann, 2019; Fuch, 2018). Moralists are concerned about such propaganda's potential for harm.

On the other hand, neutralists argue that the extreme morality of moralists can deny the positive aspects of communication activities, such as public campaigns and diplomacy. Neutralists refuse to define all persuasive communication activities affecting people as negative propaganda. Jowett and O'Donnell (2012) suggest that white propaganda coming from clear sources and providing accurate information can build trusting relationships and that not all propaganda is of the black kind. Kruckeberg and Vujnovic (2005) noted that public diplomacy is based on two-way

symmetrical communication and the establishment of an international community; public diplomacy thus differs from black propaganda based on coercive, self-serving communication.

Bakir, Herring, Miller, and Robinson (2019) proposed a theoretical model that distinguished between two kinds of organized persuasive communication: manipulative and consensual. According to their organized persuasive communication model, propaganda is non-consensual persuasive communication that can be divided into several types: deception, incentivization, coercion, and deceptive coercion. The main feature of propaganda is the lack of accurate information or free communication. Conversely, consensual persuasive communication, such as public campaigns and public diplomacy, is based on the idea of consent through communication processes in which opinions and information are freely exchanged.

Neutralists also criticize the moralist view, which they consider unscientific, that media technology can be used only by immoral propagandists. Goodwin (1994) argued that Herman and Chomsky's propaganda model reveals biased and dichotomous thinking about the media. He claimed that it is an excessive generalization to conclude that all news reporting and media programs are used as propaganda tools to disseminate the ideology of the power elite. Buşu, Teodorescu, and Gîfu (2014) suggested that public campaigns such as those against smoking and for drug decriminalization and environmental activism could use the propaganda model to be effective and produce positive consequences.

Integrated Perspective and Methodology for Propaganda Analysis.

Despite the disagreement between moralists and neutralists, both perspectives can be integrated in propaganda analysis. Moralist researchers have focused on analyses of media messages to reveal the hidden immoral intentions and strategies of antisocial terrorists, dictators, politicians, and entrepreneurs. The analysis of media messages can reveal details such as the ideology, opinions, and ideas that propagandists intend to convey. Social media such as YouTube produce vast amounts of content every day and accumulate many communication messages. Semantic analysis not only deals with big data but can also identify the shared meaning structures of the symbols and concepts exchanged in online messages (Doerfel & Barnett, 1999; Monge & Contractor, 2003).

Neutralist researchers have sought to scientifically explain social phenomena through the systematic analysis of the information and communication processes. An environment where people communicate relatively freely can be regarded as one in which positive persuasive communication is possible (Bakir et al., 2019; Jowett & O'Donnell, 2012). Social network analysis identifies the communication behaviours and patterns among members in a social system (Monge & Contractor, 2003) and can thus be used to determine whether an exchange of opinions is truly free (Smith, 2015).

Using an integrated perspective, this study conducts a propaganda analysis of YouTube videos provided by North Korea. Specifically, it analyses both media messages and communication processes, the key research concerns of moralists and neutralists, respectively.

Research Questions

This study conducts a propaganda analysis on the YouTube channel operated by North Korea. Drawing from the moralist perspective, the study will examine the intention and purpose of North Korea's YouTube propaganda; drawing from the neutralist perspective, the study will explore the videos posted on North Korea's YouTube channel without being motivated by any biases against North Korean propaganda: The channel might convey propaganda for the political ideology of the North Korean regime, or it might convey a desire for peace and a wish to join the international community after the Panmunjom Declaration. The study's first research question is as follows:

RQ1. What is the key message of North Korean propaganda on YouTube?

From the neutralist perspective, the study will examine users' reactions and communication processes as they appear on North Korea's YouTube channel. As YouTube allows free two-way communication, North Korea's channel could create a consensual communication community through a free exchange of users' opinions. On the other hand, from the moralist point of view, North Korea could use YouTube as a political propaganda tool for promoting political ideology. Thus, the second research question is as follows:

RQ2. What communication process patterns do the users of North Korea's YouTube channel display?

Method

Data Collection.

This study focuses on North Korea's propaganda YouTube channel "Today's North Korea." A total of 8,726 videos were posted on the site between December 19, 2014, when the first video was uploaded, and August 17, 2018, at the time of data collection. Of these, 149 videos had multiple commenters, forming a comment network. Videos and their accompanying comments were collected using YouTube API embedded in YouTube Data Tools (Rieder, 2015) and Webometric Analyst 2.0 (Thelwall, Sud, & Vis, 2012), software designed to find, analyse, and visualize hidden relationships among social media users.

Analysis Procedures.

We categorized the detailed types of videos through discussion after watching each one. Specifically, each video was examined in order to categorize it as a news or documentary feature. Next, each video's content was classified according to five types: current news reports, ideology education, government propaganda, cultural art, and commercial advertising including factory promotions and exhibitions. Third, we labelled the videos with category tags and metadata for content sorting; this is like the annotation process of adding a short explanation or opinion to a text while reading it. For example, Netflix hires human coders to develop descriptive tags for its recommendation algorithm and automatic parsing (Marr, 2016). Manual tagging was conducted

until mid-October 2018. Two videos had been deleted from the YouTube channel for unknown reasons. Therefore, we analysed a total of 147 video clips.

Fourth, we conducted a text analysis to extract some frequently used words in tags. Next, n-gram technique was used in order to track down a pair of words with high frequency. When an event is stored in the human brain, two memories from a similar time period tend to be stored in the same set of neurons (Rashid et al., 2016). An n-gram analysis is based on these principles. Omar et al. (2017) have previously used Google's n-gram data to examine how consistently words related to artificial intelligence are linked together in the last few decades. In this process, we have adopted a Hadoop-based platform specialized for Korean language, Textom (Son et al., 2015). For the purpose of network visualization, NodeXL software was also used (Smith, 2015).

Finally, we conducted social network analysis (SNA) to uncover the internal structure of dyadic communication processes observed in YouTube comments. The SNA method relates complex communication processes occurring during information processing in the brain to the architecture of the Internet as a system (Haythornthwaite, 2005; Park, 2018). Identifying points (commenters) and lines (reply-to relations among commenters) in YouTube data using computational methods can help trace the hidden dimensions of human actions. This study uses aspects of the action research approach as well. Hearn, Tacchi, Foth, and Lennie (2009) argued that network-centric action research, as used in media and communication studies, enables a profound exploration of the relations between observers (i.e., researchers) and the observed (i.e., YouTube moderators and commenters), which are usually not stable and often involve subjective human elements.

Results

There were four times as many documentary features (116 clips) than news features (31; see Table 1). Current news reports formed the overwhelming majority (24 clips) of the news features. Government propaganda, advertising, cultural art, and ideology education clips totalled three, two, one, and one, respectively. Of the documentary features, there was an equal number (40 clips) of cultural art and ideology education clips; these were followed by propaganda (18 clips) and advertising (17 clips) features. Only one documentary clip dealt with North Korean leader Kim Jung-Un's visit to celebrate the success of the intercontinental rocket test.

Table 1

Content type of YouTube video clips

Type	Advertising	Cultural art	Ideology education	Current news	Government propaganda	N
No. of news	2	1	1	24	3	31
No. of documentary	17	40	40	1	18	116

The most popular tags for documentaries were “song” and “Kim Il-Sung.” These were followed by “movie,” “woman,” “war,” “people’s army,” “general,” “anti-American,” “Chosun” (traditional Korean for “North Korea”), “animation,” “singer,” “boy,” and “Kim Jung-Un.” The terms “(intercontinental) ballistic” and “rockets” were used more than 10 times. Since there were fewer news clips than documentary clips, the two formats should be compared with caution. A tag analysis of news videos indicated that messages related to anti-Americanism were the most common, unlike for documentaries. Tags for nuclear weapons and intercontinental ballistic missiles were also observed. Table 2 presents the top 20 descriptive tags in terms of concurrence. The notation “N” indicates the number of total tags (not the sum of frequencies), and the percentage in the last row is the sum of the shares of the frequently tagged words.

Table 2

Top tags in terms of concurrence

Words from Documentary	Frq.	Share	Words from news	Frq.	Share
Song(노래)	34	3.30%	anti-American(반미)	14	4.35%
Kim Il-Sung(김일성)	24	2.33%	Announcer(아나운서)	11	3.42%
Movie(영화)	19	1.84%	USA(미국)	11	3.42%
Woman(여성)	18	1.75%	Kim Jung-Un(김정은)	10	3.11%
War(전쟁)	14	1.36%	Rocket(로켓)	9	2.80%
North Korean People’s Army(인민군)	14	1.36%	Ballistic(탄도)	9	2.80%
General(장군)	14	1.36%	Woman(여성)	8	2.48%
anti-American(반미)	14	1.36%	Trump(트럼프)	7	2.17%
Chosun(조선)	13	1.26%	Continent(대륙)	7	2.17%
Animation(애니메이션)	12	1.16%	Committee(위원회)	6	1.86%

Words from Documentary	Frq.	Share	Words from news	Frq.	Share
Singer(가수)	11	1.07%	Chosun(조선)	6	1.86%
Boy(소년)	11	1.07%	Mars(화성)	6	1.86%
Kim Jung-Un(김정은)	11	1.07%	Test(시험)	6	1.86%
Ballistic(탄도)	10	0.97%	Success(성공)	5	1.55%
Rocket(로켓)	10	0.97%	Model(형)	5	1.55%
Child(아동)	9	0.87%	Spokesperson(대변인)	5	1.55%
USA(미국)	9	0.87%	Restriction(제재)	5	1.55%
Continent(대륙)	8	0.78%	nuclear weapon(핵무기)	4	1.24%
development(발전)	8	0.78%	hydrogen bomb(수소탄)	4	1.24%
Performance(공연)	7	0.68%	Nuclear(핵)	4	1.24%
military song(군가)	7	0.68%	Man(남성)	4	1.24%
Mother(어머니)	7	0.68%	Peace(평화)	4	1.24%
Science(과학)	7	0.68%			
N	523	28.23%	N	153	46.58%

Specifically, the examination of tags reveals that the word pairs “science–technology,” full blown–university,” and “united–corporation” were used often in the documentaries. Word groups that included “woman,” such as “woman-singers,” “woman-cookers,” and “woman-general,” were especially prominent. However, in news clips, the “woman” tag was used only to refer to the announcer. The tag “Mars” refers to an intercontinental ballistic missile. Ko Seung-ryung is the name of the main character in the hit drama *The First Foot*. The drama is based on the novel of the same title by Kim Jin-sung. The drama depicts how the ardent young people of the Democratic Youth Alliance of North Korea, which formed from August 1945 to January 1946, behaved amid complicated circumstances right after the liberation. Figure 1 and 2 visualize them using a network diagram using Harel and Koren layout (Harel & Koren, 2000). This layout puts words of high frequency in the center based on a force-directed algorithm that minimizes overlapping lines according to the positions of nodes, thereby expressing entire networks more aesthetically. The more frequent the words appeared, the darker they were painted in red.

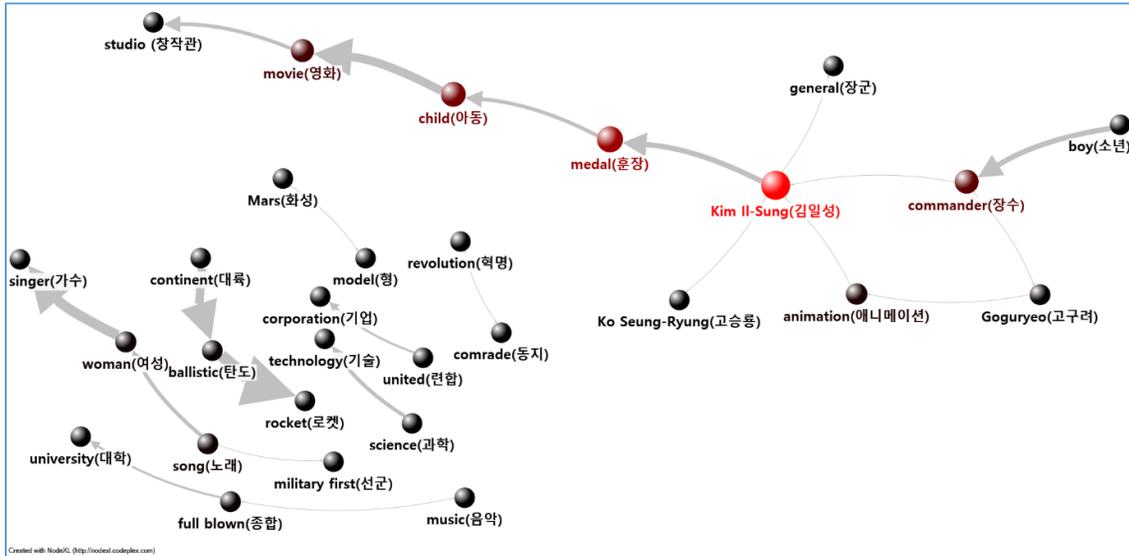


Figure 1. N-gram visualization of words from documentaries

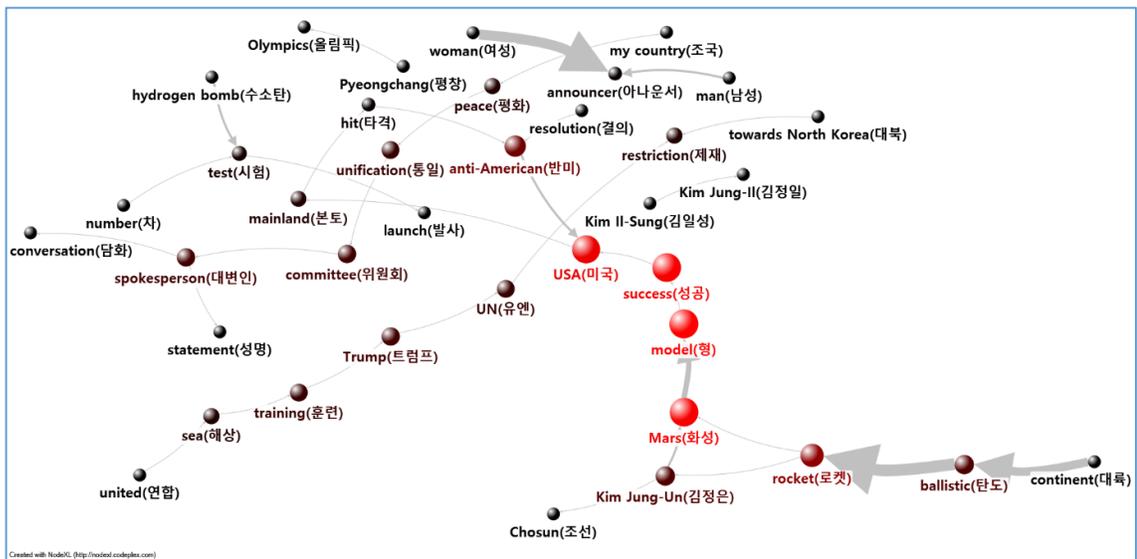


Figure 2. N-gram visualization of words from news

The same number of news and documentary clips received more than 10 comments. They also had the same number of clips with more than five replies and fewer than 10 (as in highlighted in grey; $5/31 = 12.93\%$ vs. $15/116 = 16.13\%$).

Table 3

Number of comments per type

Type	2	3	4	5	6	7	8	9	10	12	13	15	N
No. of news	12	6	6	0	2	1	2	0	0	1	0	1	31
No. of documentary	69	20	10	7	1	2	2	3	1	0	1	0	116

Four videos had more than 10 comments: 1) U.S.-led United Nations Resolution on North Korea's sanctions, 2) A public performance by young students celebrating the Lunar New Year's Day in 2018, 3) The success of the second test-fire of ICBM Hwasong-14, Juche 106 (2017) under the supervision of Kim Jung-Un, and 4) A boy commander. Counting the unique number of commenters reveals that many comments do not necessarily indicate many actors. YouTube communication networks are concentrated on a small number of actors. Five out of 15 users, or 33.33%, are active. For video no. 4 ("A boy commander"), contrariwise, there were only 10 comments, but they were left by six different people. However, the number of comments and the number of commenters are significantly correlated (Pearson $r = .846$, Spearman's $\rho = .743$, $p < 0.01$). The density, the number of actual ties divided by the possible number of relations, shows a contrasting topology of reply-to communication networks depending on the commenters and their interactions.

Table 4

Videos with more than ten comments and their reactions including network properties

ID	Comment	Commenters (Nodes)	Reply-to relations (Arrows)	Density	Published at	Genre Type	Content type
1	15	5	4	0.2	2017-08-07	News	Current news
2	13	5	3	0.15	2018-01-01	Documentary	Cultural art
3	12	6	5	0.17	2017-07-29	News	Current news
4	10	6	4	0.13	2017-08-20	Documentary	Cultural art

Do news and documentary videos differ in terms of participation and cohesion? We calculated a cross-tabulation. Of the 31 news videos, 19 received more than one comment from

two (unique) visitors (61.29%). By contrast, of the 116 documentaries, 96 attracted attention from more than two people (82.75%).

Table 5

Cross-tabulation in terms of nodes

Nodes	2	3	4	5	6	N
No. of news	19	7	1	3	1	31
No. of documentary	96	13	5	1	1	116

News and documentary videos have the most single arrow (directed link) numbers. This implies a centralized star-type communication, with channel operators responding to visitors.

Table 6

Cross-tabulation in terms of arrows

Arrows	1	2	3	4	5	N
No. of news	19	7	2	2	1	31
No. of documentary	96	13	5	2	0	116

Figure 3 presents the reply-to network consisting of everyone (114 nodes) who wrote comments. The more comments a node made, the larger it is. A network diagram is created using the Fruchterman–Reingold algorithm embedded in Webometric Analyst. This method is widely used because it allows subgroups to be stratified in micro and mesh sizes; one can easily identify the overall structure by considering the sum of the force vectors determining the direction in which a node moves (Fruchterman & Reingold, 1991). While this value suggests that the reply-to network appears to be very loosely connected, Figure 1 shows that most of the commenters were centralized around the operator when posting, replying, and talking after watching videos on “Today's North Korea.”

The operator had an outdegree centrality value of 86, with an indegree centrality of zero. It was the most productive user, writing 181 of the 933 comments collected. All 181 were replies to visitors. Among these, 121 replies received no “like” indication; 36 had only one like, and 14 had two likes. The reply with nine likes was “Thank you! Hope for more visit!” It was left for “Great film” by a YouTuber called 《Bapa》 李杰, who commented on a video titled “Last

Opportunity” posted on March 25, 2016. The next most-favoured reply, with six likes, was made for a video clip titled “North Korean Committee for investigating damage due to sanction” posted on September 29, 2017. The operator responded to a YouTuber called “ir8e,” who said, “The U.S. will feel the same pain now,” by replying as follows:

North Korea proudly holds its status as a nuclear power in name only in the face of sanctions that cover more than half a century, and has made rapid progress in building an economic power. It is foolish of the U.S. to think that North Korea can be swayed by sanctions. The U.S. needs to be aware straight forward that the more excited it is to be against North Korea, the more likely it will be to accelerate their most miserable destruction.

However, this operator did not exercise tight control over peer-to-peer communication but played a moderating role by merely answering questions and trying to facilitate mass participation. Several studies (Kim, Park, & Park, 2018; Park, 2018; Shapiro & Park, 2015) have reported that comments made about videos on controversial issues tend to feed the discussion regardless of the videos’ content.

Table 7 presents several quotations that are representative of the attitudes shown in the operator’s responses. The examples are helpful for contextualizing the results. The original texts were written in English. However, even if North Korea's YouTube channel talks with its users in English, it cannot be said that an “international-ness” consciousness of social media space run by North Korea is being established. Nonetheless, visitors from different nations (see Table 7) do comment on North Korea’s YouTube channel, which suggests the possibility of building alternative international communities for propaganda purposes.

Table 7

Comparing languages used in comments and replies in news and documentary clips

Language	News	Documentary
Korean	63	158
English	28	87
Nether Korean nor English (Chinese, Japanese, Czech, Spanish, Russian, etc.)	9	38
Both non-English (Czech, Korean, etc.) and English in combination	1	1
Emoticon	0	1
N	101	285

Surprisingly, few of the responses to the YouTube videos and comments were hostile. There are many reasons for this, but one of them is that South Koreans are restricted from commenting on the videos. Despite the peaceful atmosphere on the Korean Peninsula, inter-Korean exchange remains a contentious issue for the South Korean government, as it continues to seek a solution to its awkward situation.

Table 8

Quotations from comments on YouTube

Sender	Receiver	Comments
Operator	Web Legend	Thanks for your support!
Web Legend		Please upload more these kind of videos in the future. I am so encouraged with this video. Great~!
Operator	DN NWES	Thanks for your support! Hope for more visit!
Operator	Natalie Revolts	Thanks for your support! Hope for more visit!
DN NWES		Viva Norte del Corea
Natalie Revolts		Victory to the Korean People's Army!
Operator	BarRock	Thank you! Hope for more visit!
BarRock		The most beautiful country in the world! Thanks for a great movie!
Operator	BarRock	Thanks for your support!
BarRock		Only the only true and democratic Korea guarantees peace in the world threatened by American imperialism and the criminalization of capitalist countries! Long live our great leader and beloved leader Kim Jong Un Thanks for your support! Scientists in the nuclear field of the DPRK successfully carried out a test of H-bomb for ICBM in the northern nuclear test ground of the DPRK at 12:00 on September 3, true to the Workers' Party of Korea's plan for building a strategic nuclear force. It marked a very significant occasion in attaining the final goal of completing the state nuclear force.
Operator	Felixius Dzerzhinsky	
Felixius Dzerzhinsky		Congrats on the improvement of the nuclear deterrent.
Operator	iCT Türkiye	Thanks for your support! We will achieve the final victory in the showdown with the imperialists and the U.S. without fail. The victory is ours!
iCT Türkiye		Maybe our government through not same idea but the Turkish people are with you, N. Korea. Fuck them, wipe out the terrorist USA.

Interestingly, one node formed a subgroup. “Lee, Jae-Dong,” with an outdegree centrality of 3 and an indegree centrality of 5. This is the most popular node since its conversation partners did not overlap at all and it had the highest betweenness centrality value. Reviewing Lee’s profile and comments shows that (s)he is not a popular YouTuber, with only two subscribers. The account had no uploaded videos and only two videos on the playlist. One video clip, “Chosun, let’s hug you again,” was taken from “Today’s North Korea,” and the other was a private video that cannot be viewed by the public. Lee had written 114 comments, composed of 110 posts and four replies. All four replies were for “Today’s North Korea.” Of the 110 posts, 100 received no reply, nine received one reply, and one received three replies. The post with three replies was made on the opening semester of Kim Il-sung University, on April 1, 2016. It said: “There are college students with such will, courage, and courage to learn only for the nation and the people, so the future of the North Korea will be a victory.” Most of the other comments by Lee praised the North Korean regime or criticized South Korea. Another important YouTuber was called “CPTsymmetry,” who connected Lee Jae-dong and the operator. He left 25 pro-North Korea comments and received replies from three people.

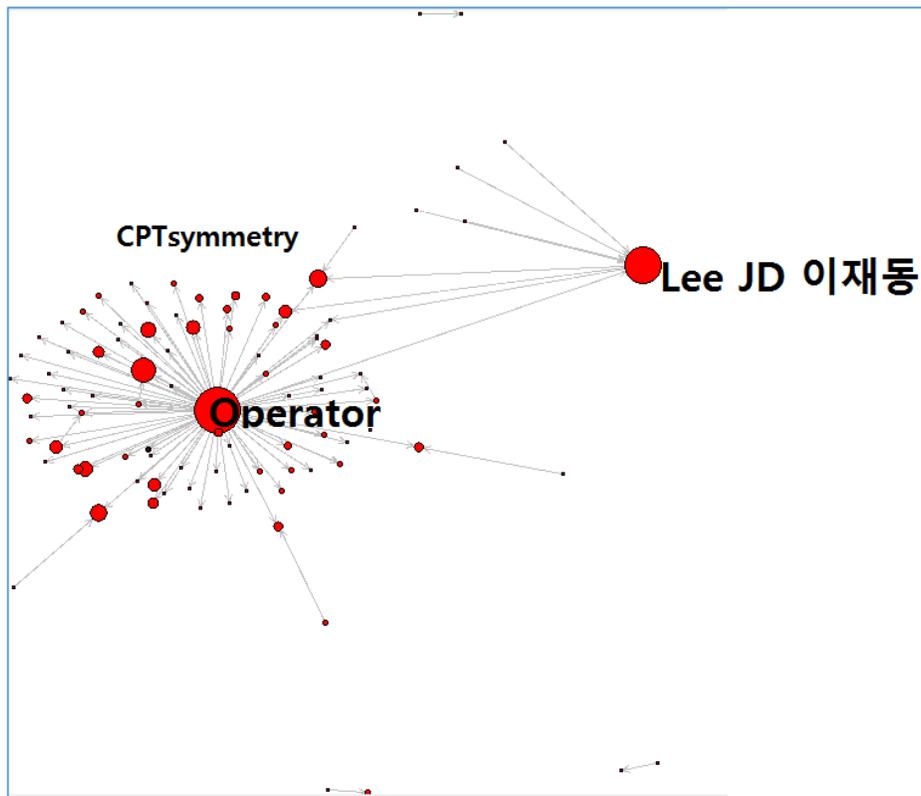


Figure 3. Network diagram

In sum, out of the 114 people who wrote comments, the operator responded to 77.19% of them. However, no one continued a discussion with the operator. Ordinary users did not expand

the dyadic relation beyond making a comment and getting an answer from the account holder. Thus, their reachability was extremely limited, and there was no pluralism of views.

Documentary videos had more than twice the number of nodes (commenters) than news clips had (87 for documentaries vs. 41 for news). The number of documentaries analysed was about four times greater than the number of news clips (116 vs. 31), but the number of nodes that responded to the documentary clips was only twice as large as the number of nodes that responded to the news clips. This means that users were more active in responding to the news clips. Unsurprisingly, news clips had less than a third the number of ties observed for documentary clips (55 vs. 150). As both networks consisted of non-symmetric value data, both the indegree and outdegree centralization values show how unequal the networking is in terms of the concentration of a particular node. The external (0.130 vs. 0.012) and internal (0.010 vs. 0.001) concentration of the news clips was 10 times higher than that of the documentary clips. This means that most news clip ties were received and initiated by a single node or a few prominent nodes. The distribution of degree centralities of each node reveals that the operator’s outdegree was extremely high, with 47 connections. Only eight nodes had an outdegree value of 1; the rest were all zero. “Lee, Jae-dong” had the highest indegree value (5), and four nodes had an indegree value of 3, including the operator. On the other hand, because nodes in a documentary have a relatively low concentration of networking, transmitting a message within a set of nodes in a documentary is four times higher than the news (0.009 VS 0.036).

Table 9

Comparing news and documentary clips using network indices

Indices	News	Documentary
Nodes	41	87
Total no. of ties	55	150
Out-Centralization	0.130	0.012
In-Centralization	0.010	0.001
Transitivity (Triplets)	0.009	0.036

Discussion

This study examined North Korean propaganda on YouTube using an integrated perspective encompassing the moralist and neutralist approaches. From the moralist approach, a message analysis based on qualitative tagging identified the meaning structure of propaganda embedded in videos on North Korea’s YouTube channel; from the neutralist approach, a social network analysis

sought to understand the communication structure of the channel. We discuss the results with reference to our research questions below.

What is the Key Message of North Korean Propaganda on YouTube?

Through qualitative tagging exercise, we found that North Korea is using its YouTube channel as a propaganda tool to advocate for its political ideology and regime. Documentaries are the dominant genre on North Korea's YouTube channel. The results reveal that North Korea is still using movies, music, and artwork as political propaganda tools. The tags that occurred most frequently in the documentary clips were, in order, "songs," "Kim Il-sung," "movies," and "women." The purpose of the documentaries was to support North Korea's political ideology through songs and movies praising Kim Il-sung. Unexpectedly, "woman" and "boy" appeared frequently in documentary key tags.

The news posted on North Korea's YouTube channel did not report on the latest events, such as the Panmunjom Declaration. Instead, the tags that appeared most frequently in news clip included "anti-American," "announcer," "USA," "Kim Jong-Un," "rocket," and "ballistic." Most news reports focused on the launch of ballistic missiles against the U.S. and praising Kim Jong-Un.

The results of the qualitative tagging analysis show that the negative propaganda about which moralists are concerned is appearing on North Korea's YouTube channel. Its videos could be seen as propaganda with the immoral intentions to glorify the North Korean regime and manipulate people by distorting reality.

What Communication Patterns Do the Users of North Korea's YouTube Channel Display?

The results of the social network analysis reveal a closed communication structure in which the operator of North Korea's YouTube account converses with very few users. News clips had more comments than documentary clips had, but no substantial communication relationship among the channel's users had been formed. However, the operator did not exercise tight control over peer-to-peer communication but remained moderate and merely answered questions and tried to facilitate mass participation.

Comments on the YouTube channel were made in various languages, including Chinese, Japanese, Spanish, and Russian, in addition to Korean and English. This indicates that the North Korean regime's propaganda efforts may be expanding. However, negative perceptions and fears about North Korea make it difficult for users to establish a mutual communication relationship. Maintaining North Korea's YouTube channel, with its closed communication structure, may be difficult because negative propaganda content and closed operations do not attract many ordinary social media users, who are accustomed to free exchanges of ideas. Therefore, even from a neutralist perspective, North Korea's YouTube channel is a coercive and manipulative form of persuasion and a typical form of black propaganda.

Limitations and Possibilities for Future Study.

This study represents exploratory research on North Korea's online propaganda, which has rarely been addressed in the literature. The study also applied an integrated perspective that encompasses current propaganda research to the analysis of North Korea's propaganda. However, this study has several limitations. First, the YouTube channel analysed in the study does not represent North Korea's online propaganda. Understanding North Korea's online propaganda requires research on various social media platforms, such as Twitter, Instagram, Tumblr, Flickr, and Youku, operated by North Korea.

Second, this study found no significant change in North Korean propaganda, even amid changing international circumstances, including the Panmunjom Declaration and the U.S.-North Korea peace negotiations. The study may not have found a change in the characteristics of propaganda because it analyzed only North Korean YouTube channels operated at a certain time. Therefore, a long-term research plan is needed to more accurately explore North Korea's propaganda.

Third, data collection for studying North Korean online propaganda was difficult. Social media platforms like YouTube block access to anti-social and negative propaganda content for the sake of the public good. North Korea's YouTube account may thus be difficult to sustain. Another channel titled "Today's North Korea" appears to have been recreated recently after the original account was deleted by YouTube for security reasons, and commenting is disabled for several videos on this newly opened channel. This makes it difficult to collect and analyse long-term data on North Korean propaganda.

Conclusion

This study explored North Korea's YouTube propaganda patterns. In a social media space based on a free exchange of ideas and communication, North Korea's use of YouTube could signal a change in the employment of propaganda. This study found that North Korea uses YouTube as a tool for supporting its regime. North Korea's YouTube channel operates only to convey political propaganda, rather than to form social relationships with users. The channel's operator tries to respond to user comments and form relationships, but, given that the channel posts only political propaganda videos, the operator's efforts are limited.

North Korea's YouTube channel can be understood as an effort to communicate with the international community. If such efforts are limited to the typical kind of black propaganda that seeks to manipulate and control, North Korea could find itself isolated in social media space. In order for North Korea to participate as a member of the international community, it needs to break away from its typical black propaganda and try to promote consensual communication for the sake of public diplomacy.

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