The Politics of Quarantine:
The Political Implications of Negative Social Affects in the Early Stage of COVID-19 in South Korea*

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We analyze the interrelationships between quarantine-related events and negative social affects during COVID-19 in South Korea. We explain the impact of these relationships on the political nature of quarantine. We conducted a discourse analysis of YouTube comments posted on COVID-19-related videos during 2020. We analyzed these affects and their social and cognitive triggers using cognition-emotion theory and affect theory. Contingent COVID-19 outbreaks in South Korea and ambiguous information contributed to fear and anger. Social disgust combined with anger as mass infection events occurred over time, influencing the attitudes of South Korean citizens who support the country's social distancing policy. We find that social disgust realized through exclusion and purification is associated with the politics of quarantine. Consequently, we show that the political disgust surrounding quarantine was embedded within social disgust. This study paves the path for further research on the governmentality of affects and mobility in the context of epidemics.

Key Words: COVID-19, Negative Affects, Politics of Quarantine, Politics of Disgust

I. Introduction

Although the coronavirus disease (COVID-19) pandemic is ending, it has left many

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political and economic challenges to Korean society. This indicates a severe political problem not limited to medical health. New terms such as "political quarantine" and "scientific quarantine" have emerged in the context of colliding and polarized political camps with people's lives as collateral. However, these are all attempts to use quarantines to make political claims and are distinct from the politics of quarantine. This necessitates a careful understanding of the politics of quarantine.

In addition to medical health knowledge, social affects also intervene in the politics of quarantine. In South Korea, the unexpected pandemic crisis and, subsequently, citizens' distrust of the government for failing to respond to the crisis affected quarantine policies through social affects. This situation is an aspect of affective politics that operates microscopically when discipline and rule shrink in the political life of citizens. In addition, a better understanding of the politics of quarantine is crucial, given the current prediction that the occurrence cycle of large-scale infectious diseases is gradually accelerating.

We seek to elucidate the politics of quarantine by analyzing the operation of social affects in the context of a pandemic crisis. To this end, we analyze the aspects of negative social affects operating in the initial phase of the COVID-19 pandemic in Korea. The following questions were addressed: First, how do the negative affects that appear in a social crisis arise in South Korea's pandemic experience, and how do they mutually influence and intervene in the situation again? Second, how does the affect of disgust, which influences social division and conflict among those affects, operate in the South Korean government's politics of quarantine? Third, what theoretical and practical implications does the affect of social disgust have in a large-scale disease situation?

We address these questions as follows. First, our analysis focuses on three negative affects (fear, anger, and disgust) in the early stages of the pandemic. These affects are responses to actual threats that endanger the safety of individuals and communities and occur and change according to the threat's size, intensity, and pattern. Among the distinct stages of Korea's pandemic experience, from occurrence and development to extinction, the absence of accurate information at the time of occurrence is significant in instigating these affects. Negative affects are interconnected and expressed in a pandemic, but studies analyzing the correlation between the affects are relatively lacking. We analyze the affect of disgust in the context of the correlation between social fear and anger.

Second, in accordance with the affect theory, we view affects as influencing relationships through social actors. In the Korean pandemic context, negative social affects are related to specific events and the civic attitudes triggered by them, and their combination manifests as social expressions. As we will discuss in detail below, recent studies have pointed out that social disgust in the context of a pandemic can thwart

social distancing policies while fueling political conspiracy theories. However, we explain how the quarantine policy of social isolation in Korea continues under the relatively voluntary participation of citizens. We also highlight social disgust as a factor strengthening trust in the quarantine policy.

Third, based on the abovementioned view, we propose the concept of "politics of disgust." In general, the affect of disgust is realized in the aspects of "purification" and "exclusion." This is similar to "hygiene" and "restriction" in a pandemic context. The politics of disgust emphasizes the political function of social disgust in a pandemic. We call attention to the divisions in Korean society that may be produced by social disgust in the event of a stronger pandemic in the future.

The next section describes the theoretical background and, thereafter, the methods used to analyze the YouTube comments from the pandemic period are described in the Data and Methods section. The Results section presents the results obtained from our analyses. Finally, the theoretical and practical implications of social disgust in the context of a large-scale infectious disease pandemic in Korea are presented in the Discussion and Conclusions sections.

II. Theoretical Background

A. South Korea's Pandemic and the Politics of Quarantine

Since modern times, the term "biopolitics" has been used to refer to the operation of power and governance in which life is managed by considering life as the object of politics and to the power of "making live and let die" in the biopolitics of the population (Rabinow and Rose 2006; Foucault 2007). Based on this definition, if quarantine is an aspect of life management, it is considered political.

In a pandemic, quarantine policies involve choosing between policies of social isolation and herd immunity. Europe's quarantine policy was torn between social isolation and herd immunity policies. China implemented intense social isolation and a "Zero COVID" policy from August 2021 to December 2022. In Sweden, a herd immunity policy was chosen (Jung et al. 2020; Seong et al. 2021; Liu, Liu, and Liang 2022). However, considering their efficiency and success, the selection and execution of quarantine policies are political government acts. Each country has different quarantine policies, which may not always be due to the differences in medical health knowledge among countries. It could be due to political decisions driven by the basic

rights of citizens and national economic conditions. The politics of quarantine is closely linked to the scientific discourse but is not realized only by it.

The quarantine policies, which are a form of social isolation, have regional differences, but generally lead to significant restrictions and resistance to the basic rights of citizens. China's strong anti-epidemic policy has retreated in the face of massive opposition from citizens. On the other hand, social isolation in Korea was not only implemented preemptively compared to that in Europe or Japan but was maintained relatively voluntarily (Stancati and Yoon 2020). Thus, discussions on the uniqueness of Korea's politics of quarantine are sufficiently meaningful.

South Korea has experience with quarantine policies for infectious diseases of zoonotic origin, such as severe acute respiratory syndrome (SARS) in 2002 and Middle East respiratory syndrome coronavirus (MERS-CoV) in 2015, and for infectious diseases in animals, such as foot-and-mouth disease (2000), avian flu (2002), and African swine fever (2019). Some researchers have pointed out that the quarantine experience associated with animal infectious diseases particularly applies to COVID-19's quarantine policy. In South Korea, the government and the media have disseminated concerns about food safety, problems with human infection, and economic losses to civil society due to animal infectious diseases. This tends to create social unrest, and the politics of quarantine actively utilizes this fear of and disgust for infected animals to quickly implement excessive quarantine policies at the cost of sacrificing countless animals. The successful experience and know-how of animal infectious disease prevention may have made it easier for citizens to tolerate quarantine policies for social isolation (Kim 2021c, Kim and Chun 2022).

This politics of quarantine in Korea is typical of life management politics (Kang 2022; Kim 2021a). Health agencies emphasize personal hygiene and safety, and media mobilizing healthcare experts reinforces fear. Behind this fear, an affects foundation is formed, making it easier for citizens to tolerate quarantine policies. Fear, anger, and disgust play a vital role in the politics of quarantine. These affects may also have made the politics of quarantine easier in South Korea during the early days of the COVID-19 outbreak.

B. The "Pandemic Situation" and the Dynamism of Negative Affect

The politics of quarantine emphasizes the rationality of policies while advocating scientific discourse. However, the influence of social affective intervention in the pandemic is relatively concealed. A pandemic situation refers to a comprehensive situation that can be associated with a disease (Hinchliff 2016). In this study, we focus

on the function of negative affects in the politics of quarantine. In the early days of the pandemic, the politics of quarantine involved using the message of fear through various media. The government consistently pursued a policy of social isolation, advocating strong sanctions against "false rumors." The media skillfully realize micro-affective politics instead of traditional disciplinary power (Massumi 2010; 2015; 2021; Boler and Davis 2018). Below, we analyze the political function of affects, focusing on YouTube comments. In this regard, studies on fear and anger have been conducted in Korea during the pandemic, but there are relatively few studies on the effect of social disgust (Jeon 2021; Moon and Travaglino 2021).

In general, disgust is an affect resulting from the motivation to avoid or eliminate unclean or threatening objects (Angyal 1941; Ekman 2003). It is related to the survival response to avoid ingesting toxic substances (Rozin and Fallon 1980; 1987). The social threat of infectious disease elicits disgust (Rozin, Lowery, and Ebert 1994; Oaten, Stevenson, and Case 2009; Patrick and Lieberman 2018). Disgust is also expressed when acts threaten religious sanctity or when someone's behavior appears immoral (Rozin et al. 1999; Scherer 1997).

Disgust, along with fear and anger, is a negative affect resulting from threat or loss and is not expressed alone. In particular, anger appears even if it is not directly related to oneself when the threatening behavior of others is judged to be ethically problematic. The relationship between these negative affects and the perception of quarantine policy can be explained by discussing the relationship between cognitive evaluation and emotion (Ortony, Clore, and Collins 1988). Cognitive and emotional evaluation traditionally includes two evaluations of appraisal (Lazarus 1991). First, members of society have specific goals to make their lives worthwhile, and they hope that these goals will fit the given circumstances. If the social self recognizes that the situation does not match its goals, the actor becomes indifferent or weighs the gains against losses (primary appraisal). The resulting evaluation is the attribution of the social self to the situation, that is, the evaluation of who is responsible for what happened (secondary appraisal). If the situation in which social actors find themselves does not match the goals they pursue, they will express their negative affect on the community and blame the cause of the discrepancy.

Based on the logic of appraisal in the cognition–emotion model, we analyzed the occurrence and change in negative affects such as fear, anger, and disgust expressed by social groups in threat situations and their attitudes in coping with threats. First, the accidental occurrence of COVID-19 is recognized as a social threat. The primary evaluation of the threat appears as a strong affect of fear toward an individual or group,

and collective avoidance behavior for the cause is triggered. It is to this cognitive evaluation that citizens' consent to high-intensity quarantine policies such as social distancing can attribute. As the pandemic progresses, social assessments of the causes of social threats accumulate. When the cause of the threat is contrary to the group's goals or socio-ethical, cultural, and political attitudes, social anger and disgust are triggered. When the cause of a community threat is combined with disgusting food culture, religious purity, or sexual heterogeneity, social disgust appears clearly (Keltner, Greunfeld, and Anderson 2003). Based on this context and existing discussions, we make the following distinction between "social disgust" and "political disgust." Social disgust is an affect that operates in various social interactions, including political practices and processes. In contrast, political disgust is an affect caused by deviant behavior surrounding quarantine that operates through political discourse.

In conclusion, social disgust combined with anger in a pandemic situation is more likely to be expressed aggressively when the threatening target is unethical, inhumane, or abnormal. Nussbaum (2004) argued that these negative and aggressive affects lead to severe divisions in the community. the emergence of negative affects is associated with situations and events. Social actors evaluate their knowledge and beliefs about their environment and the attitudes and behaviors of others and express emotions using them as causes. These emotions, in turn, influence their judgment and behavior (Leventhal and Scherer 1987; Parkinson and Simon 2009; Kalat and Shiota 2012).

In a recent study, Moon and Travaglino (2021) explain the effect of social disgust on citizens' attitudes toward quarantine policies in the context of a pandemic in several countries, including Korea. This study argues that distrust in the political system manifested in the implementation of quarantine policies combined with social conspiracy theories made it difficult for citizens to participate in quarantine voluntarily. However, in Korea's pandemic, high-intensity quarantine policies such as social distancing were steadily maintained. We aim to explore the cause of this difference, hypothesizing that the affective dynamics of social disgust appeared in the direction of strengthening the government's quarantine policy. Disgust depends on the cause of affects and the aspect of evaluating that cause (Manstead and Fischer 2001). Therefore, citizens' cognitive judgments toward quarantine policies can also change depending on their affects.

III. Data and Methods

A. Data

We selected YouTube comments created from January to December 2020, since COVID-19 was officially announced and analyzed the characteristics of this pandemic period. This period is essential because the features of the changing situation of a social crisis causally affect the evaluation and attitude of social actors and thus determine which negative affects occur and change. In the early days of the COVID-19 outbreak, various social alerts for a crisis equivalent to a national emergency were declared. Still, specific information on the cause and response to the crisis must be included. For example, media reports on the contingencies of large-scale infectious diseases, the absence of data on the content and risk of the disease, and the relatively rapid increase in the number of deaths predict a strong expression of negative affects, especially social fear and anxiety. Moreover, the cause of the pandemic threat and the government's poor response simultaneously trigger social anger and disgust, which becomes more complicated as a social judgment on the cause of affects is specified. Thus, we can distinguish and track changes in the causes of the pandemic, the citizens' attitudes toward them, and the degree of social fear, anger, and disgust that they express.

YouTube, a representative new social media platform owned by Google, is a portal service that combines search and community functions. In this respect, YouTube video comments can provide meaningful data for social media discourse analysis (Meek 2011, 1436). The YouTube comments we collected include various opinions written on videos related to COVID-19 uploaded from January to December 2020. When collecting data, the data were compared with "corona" as the search keyword for the rest of the period except for January and February 2020 and "COVID-19" as the search keyword for the rest of the period. Since no meaningful difference could be found in the data identified using the two keywords, "corona" was used as the default search term. We also included terms such as "Wuhan Pneumonia" and "Wuhan Flu," which were widely used in the domestic media until February 2020, after which the World Health Organization officially announced that it did not recommend using specific regional names for infectious diseases. We listed up to 100 videos per month based on the degree of relevance and collected up to 500 comments for each video. To validate the retrieved data, our research team selected a method of extracting the top 500 relevant comments from the top 100 relevant videos per month through peer review. Since the time of video upload and the time of comment posting do not necessarily coincide,

the comments used for analysis were limited to comments posted from January to December 2020. About 110,000 comments were used for the analysis after selecting blank or meaningless data and undergoing data purification.

B. Methods

After collecting comments from YouTube videos about COVID-19, the data was preprocessed to build a corpus. First, the stop words were processed. In this process, we created a dictionary to add synonyms. The pilot study confirmed the appearance of many new terms, such as "COVID-19," "PCR test," and "selective treatment"; hence, we proceeded to add the vocabulary identified in this process. Next, the refined text was tagged using part-of-speech tagging through morphological analysis. The text used for analysis consisted of nouns that appeared twice or more in two or more syllables.

We also applied a dictionary-based approach to the analysis of affects. The NRC Lexicon, or the NRC Word-Emotion Association Dictionary, built with the support of the National Research Council of Canada, is the emotion dictionary used in this study. It is included in "tidytext," an R-based text mining package. This emotion dictionary was coded according to Plutchik's (1980) emotion classification model using vocabulary collected in English. The dictionary classified eight basic emotions—anger, fear, expectation, trust, surprise, sadness, happiness, disgust—and coded two emotion valences—negative and positive. Since the NRC Lexicon is built based on English vocabulary, the collected comments undergo machine translation using the Google Translate API before emotion analysis. To analyze emotions expressed in comments, we estimated the average monthly value of emotion, calculated by obtaining the monthly arithmetic average of the frequency of words related to emotion. The correlation between emotions was calculated by measuring the linear dependence between emotions through the Pearson correlation coefficient (Pearson's r).

Finally, topic modeling was used to derive significant events that affect affects and analyze the contents of the text. Topic modeling is a text-mining technique that classifies potential topics in multiple documents. In this study, we used the topic model that applied Latent Dirichlet Allocation (LDA) proposed by Blei et al. (2003, 1014-1015). The number of topics was determined and labeled to identify the topic results. The results of open coding were then compared anonymously among researchers. Finally, axial coding based on the open coding results was used to reduce the number of dimensions. In this process, some topics were given the same label because they were similar in content.

IV. Results

A. Relationship of Negative Affects in the Early Pandemic Period

Changes in fear, anger, and disgust over time indicate that these affects might be combined. When anger disappears, disgust also tends to decrease, suggesting that the attributions of responsibility for the cause of anger and the cause of disgust are mixed. The strong correlation between social anger and disgust, as shown in Table 1, can also confirm these characteristics of fear and anger. Table 1 shows the intensity of affections (anger, disgust, fear) present in YouTube comments in the early days of the COVID-19 epidemic. Intensity has a value between 0 and 1. The average value indicates the average emotional intensity for the entire period of 2020, while the minimum value indicates the lowest emotional intensity during this period, and the maximum value, the highest intensity. Three patterns were identified in the monthly emotion trends (Figure 1). First, fear was more robust than anger and disgust throughout the pandemic. Second, in January 2020, in the initial pandemic period, fear, anger, and disgust were the most expressed, and from August, these affects showed an increasing pattern. Finally, fear increased rapidly from January to February 2020 and recorded the highest level, but after that, it showed a gradual decrease regardless of the size of the confirmed cases.

Table 1. *Affect Values of Anger, Disgust, and Fear in YouTube Comments*

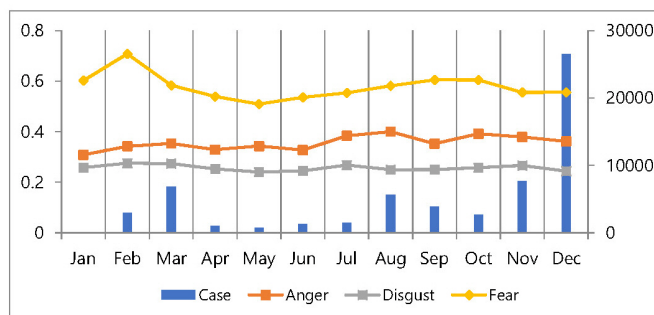|	Anger	Disgust	Fear
Average	0.3547	0.2607	0.5921
Max(month)	0.3917	0.2752	0.7078
Min(month)	0.3084	0.2402	0.5094

Figure 1. *Trends in Affects and COVID-19 cases (Jan 2020–Dec 2020)*

Anger and disgust moved similarly to the decreasing fear trend after February, thereafter showing a slight increase, reaching its peak in August. No consistent correlation was found between the number of confirmed cases and the emotional level in all three affects. For example, fear increased the most during the early stages of the pandemic but showed a decreasing pattern in November and December, when the number of confirmed cases rose sharply; meanwhile, the trends in anger and disgust differed from this pattern. Due to the August 15 Gwanghwamun protest led by Pastor Jeon Kwang-hoon of Sarangjeil Church, anger increased even more in the face of the re-proliferation of COVID-19. Thus, it is assumed that the cause of disgust might be related to the cause of anger.

The correlation coefficient between emotions shows information about each emotion's relationship with the other. The correlation matrix between negative affects and the number of confirmed cases supports this discussion (see Tables 2 and 3). There was a significantly positive (+) correlation between all affects. Overall, anger and disgust showed the strongest correlation in the first and the second halves, with the correlation coefficients between affects being in the following order: anger*disgust (0.582, 0.721), disgust*fear (0.556, 0.608), and fear*anger (0.472, 0.498). This indicates a stronger correlation between increased levels of anger and disgust than other correlations between the negative affects. There is also a strong correlation between fear and disgust. Although the correlation between anger and fear was lower than that between anger and disgust and between fear and disgust, it was statistically significant ($p<0.001$). In the second half, the correlation coefficient between the affects was more significant than in the first half. This suggests that the affects are more strongly connected in the second half than in the first half. In particular, the correlation between disgust and anger (0.721) was high. However, no statistically significant correlation existed between the affects and the number of confirmed cases.

Table 2. *Correlation Matrix on Anger, Disgust, Fear, and COVID-19 Cases (Jan 2020–Jun 2020)*

		Anger	Disgust	Fear	Cases
Anger	Pearson's r	—			
	p-value	—			
Disgust	Pearson's r	0.582	—		
	p-value	< .001	—		
Fear	Pearson's r	0.472	0.556	—	
	p-value	< .001	< .001	—	
Cases	Pearson's r	-0.01	0.013	0.109	—
	p-value	0.897	0.867	0.166	—

Table 3. *Correlation Matrix on Anger, Disgust, Fear, and COVID-19 Cases (Jul 2020–Dec 2020)*

		Anger	Disgust	Fear	Cases
Anger	Pearson's r	—			
	p-value	—			
Disgust	Pearson's r	0.721	—		
	p-value	< .001	—		
Fear	Pearson's r	0.498	0.608	—	
	p-value	< .001	< .001	—	
Cases	Pearson's r	-0.098	-0.099	-0.026	—
	p-value	0.185	0.181	0.722	—

Content analysis using topic modeling supports the previous correlation analysis results (Tables 4 and 5). As a result of the topic modeling of comments in the first half of the year, topics such as the spread of infectiou diseases in China, the origin of the disease (such as Wuhan, China), the Shincheonji Church of Jesus, the Temple of the Tabernacle of the Testimony (after this referred to as Shincheonji) group infection in Daegu City, infection symptoms, and public health-related issues were mainly included. For China-related topics, keywords related to quarantine policies, such as the spread of infectious diseases and entry bans, were the main keywords related to the Wuhan region. These topic model results were analyzed because China-related topics and infectious disease-related topics share keywords that are so similar that it is difficult to distinguish between them.

Conversely, Christianity-related topics tended to appear in the second half of the year, which is presumed to be related to the Gwanghwamun protest led by Pastor Jeon Kwang-hoon of Sarang Jeil Church. In the second half, the government's quarantine policy, public health, and vaccine-related topics appeared more frequently than in the first half. Keywords related to government quarantine policies included vaccines and social distancing. In the second half, vaccines and compensation for losses due to social distancing were related to quarantine policies.

The abovementioned results indicate that fear, anger, and disgust tend to increase or decrease with related topics, and the level of emotion may decrease as the action or event that caused the emotion disappears. There are two things to note in this result. First, the themes of COVID-19 and China intertwined around fear (originating from awareness of unknown, infectious, and deadly diseases). Since the first COVID-19 case in Wuhan, China, the disease began to spread to other regions in December 2019; fear increased rapidly around January 20, 2020, when the first infection in Korea was

Table 4. *Topics on YouTube Comments (Jan 2020–Jun 2020)*

No.	Topic Labels	Keywords
1	China	China, Chinese, Wuhan, entrance, prohibition, market, laboratory, country, airplane, person, overseas, block, No entry, COVID-19, infection
2	Public Health	problem, animal, time, population, start, country, more, experiment, wild, person, necessary, helminthic, during, sound, actually
3	COVID-19	person, Korea, worry, comment, mask, unrest, thought, more, COVID-19, child, relation, boast, song, government, Myeong-dong
4	Shincheonji	school, Dae-gu, Shincheonji, dead, student, person, prayer, patient, next, Seoul, COVID-19, father, street
5	Symptom	COVID-19, virus, symptom, sneeze, cold, person, telephone, immune, new species, woman, doubt, occur, possible, man, transition, fever
6	China	thought, person, movie, China, opposite, virus, bat, itself, confirmation, epidemic, English, study, opinion, expert, meaning
7	Medical Staff	thanks, medical staff, video, medical treatment, hardship, health, teacher, information, cheer, mind, sincerity, respect, tear, effort, effort
8	China	person, COVID-19, degree, citizen, Australia, danger, life, China, help, solution, mental, racism, virus, country, punishment, thought
9	Infectious Diseases	virus, vaccine, COVID-19, bat, MERS, SARS, development, flu, remedy, possible, research, China, infection, Wuhan, effect
10	Public Health	China, Korea, country, USA, Japan, North Korea, No entry, economy, response, war, Europe, person, COVID-19, government, defense
11	Public Health	country, Korea, careful, news, thought, broadcast, degree, COVID-19, China, Korean, person, Wuhan, North Korea, health, nation
12	Environment	human, earth, nature, environment, COVID-19, world, fine dust, pneumonia, weapon, reality, existence, now, biochemistry, pollution, humanity
13	China	China, world, country, government, president, country, pulpit, Japan, level, thought, now, nation, responsibility, city, parents
14	Public Health	nation, government, country, personal, country, reason, safety, person, China, society, tax, problem, Moon Jae-In, freedom, Developed countries, system
15	Public Health	hospital, isolation, patient, therapy, person, understanding, vitamin, family, facility, admit, worry, area, necessary, measures, nerve
16	Medical Staff	doctor, video, nurse, information, words, blessing, doctor, health, thought, COVID-19, thanks, deceased, reporter, teacher
17	COVID-19	test, response, situation, this time, cure, hygiene, COVID-19, management, confirmation, early, China, voice, love, defense, positive, government
18	COVID-19	infection, person, infected, confirmation, possible, China, news, air, contact, danger, area, COVID-19, infection, confirm, diffusion, foreign
19	Public Health	support, way, Disinfection, occasion, use, country, subsidy, application, detail, company, employ, stability, part, maintain
20	COVID-19	mask, person, infection, talk, more, prevention, immunity, wearing, COVID-19, normal, one day, food, action, me, face, China

confirmed. However, at the same time, topics related to Wuhan tended to show many keywords related to disgust. This means that unsanitary conditions and disgust are associated. An unsanitary issue came to light in the first half of the year, and media

Table 5. *Topics on YouTube Comments (Jul 2020–Dec 2020)*

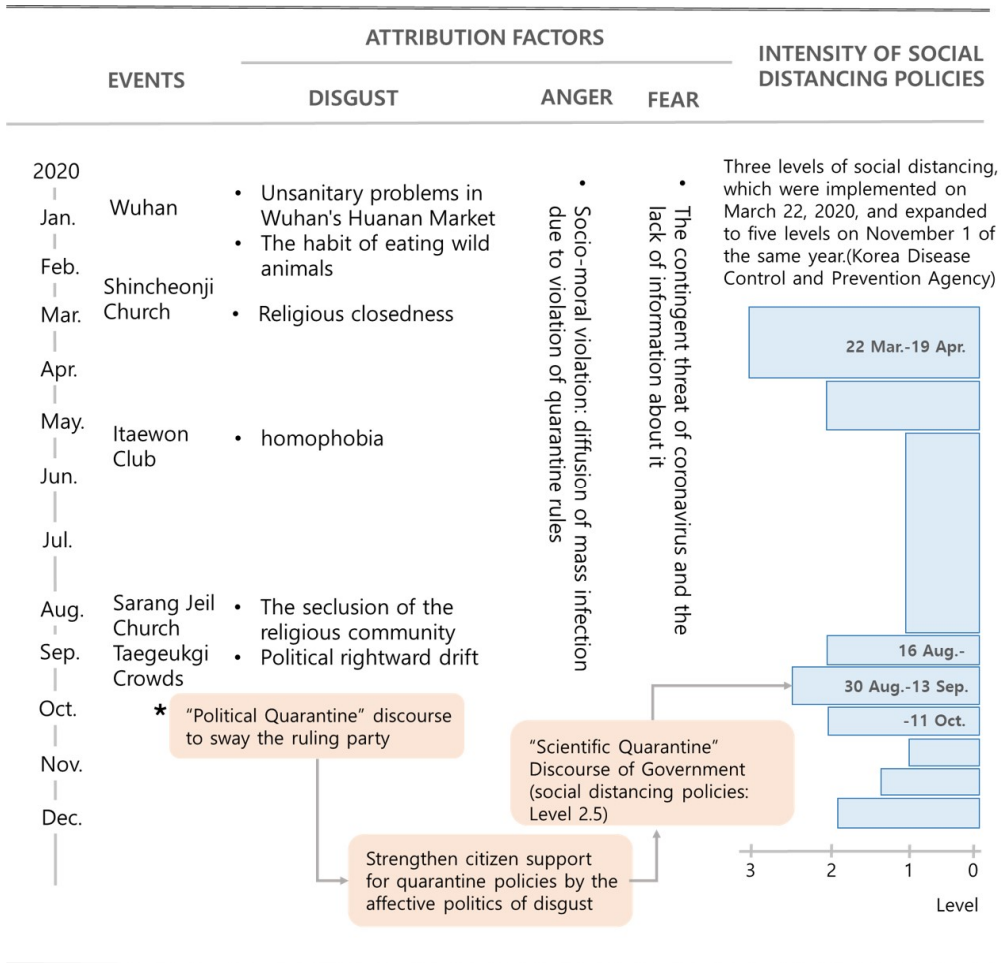| No.	Topic Labels	Keywords
1	The Christian Religion	church, minister, worship, father, thought, words, religion, online, personal, prayer, important, myself, era, trust, chance
2	Education	school, professor, education, space, COVID-19, necessary, lecture, student, child, wealthy, virus, important, player, real estate, time
3	COVID-19	person, COVID-19, worry, cure, aftereffect, end, vessel, therapy, parents, around, thought, family, child, woman, nerve, recovery
4	Economy	company, tax, person, problem, delivery, support, most, cheer, bus, sound, government, food, song, nationwide, sale
5	COVID-19	mask, person, talk, COVID-19, evidence, necessary, thought, science, possible, first, news, wearing, evidence, fake news, lie, presentation
6	China	China, world, country, country, Wuhan, COVID-19, USA, Chinese, laboratory, harm, entrance, level, admit, responsibility, prohibition
7	Technology	human, mental, society, person, life, earth, street, problem, pain, thought, humanity, daily life, weapon, control, technology, COVID-19
8	Media	broadcast, situation, understanding, Seoul, more, detail, apartment, press, activity, area, news, start, city, possible, reason
9	COVID-19	COVID-19, symptom, time, asymptomatic, infection, occasion, sneeze, me, infected, overseas, end, degree, person, head, doubt
10	COVID-19	thought, person, health, COVID-19, marriage, employee, love, Trump, divorce, monk, cure, public health, itself
11	Vaccine	virus, vaccine, experiment, remedy, COVID-19, antibody, effect, development, possible, research, safety, nature, clinical, animal, inoculation
12	Public Health	country, Korea, USA, nation, population, president, group, immune, economy, Europe, infection, developed countries, Trump, world, difference, COVID-19
13	Gwanghwamun Protest	assembly, more, this time, politics, person, press, occur, responsibility, COVID-19, Jeon Kwang Hoon, movie, normal, Gwanghwamun Gate, police, at that time
14	Vaccine	COVID-19, person, defense, Japan, country, start, rule, freedom, danger, time, next year, video, gates, how much, vaccine, China, punishment
15	Medical Staff	COVID-19, thanks, medical treatment, hardship, sincerity, careful, cheer, effort, China, Medical staff, thought, respect, diffusion, effort, thanks for
16	COVID-19	confirmation, test, one day, hospital, Person, result, family, COVID-19, dead, degree, self-isolation, voice, infection, positive, isolation
17	COVID-19	person, thought, news, video, COVID-19, world, study, thanks, comment, problem, detail, first, now, life, reporter
18	Symptom	COVID-19, flu, cold, side effect, patient, degree, person, prevention, specialty, dead, therapy, for free, danger, doctor, staff sergeant
19	Public Health	government, nation, best, step, problem, Korea, plastic, friend, use, trash, citizen, policy, self-employment, go for it
20	The Christian Religion	thanks, words, mind, video, teacher, information, world, comment, doctor, person, Jesus, sympathy, thought, happiness, era, understanding

began to report that the edible wild animals such as bats, pangolins, and minks being sold at the Huanan Market in Wuhan on January 23 were the cause of the virus outbreak. In early April, the entire city of Wuhan was put on lockdown.

In addition, the Shincheonji group infection in February 2020 was a combination of the concealment of infectious diseases, the seclusion of the religious community, and fear, anger, and disgust of group infections. From when the first COVID-19 case was discovered on January 20, 2020, about 5,000 people were infected in a month in Daegu City and Gyeongbuk province. Thus, the level of emotion moderately increased. In May 2020, the Itaewon mass infection turned to anger toward quarantine violators and disgust toward social minorities. However, unlike the Shincheonji mass infection case, fear tended to decrease. It is estimated that the group infection from clubs in Itaewon caused anger due to non-cooperative attitudes to quarantine policies. Anger and fear increased before and after the Gwanghwamun protest in August 2020. At this time, a change in the affects (anger and fear) was observed toward the Protestant far right. Unlike the Itaewon incident, the Gwanghwamun protest is characterized by anger and fear. About 1,000 people were estimated to have been diagnosed with COVID-19 in a month. Social anger arises when social distancing and personal hygiene violations are considered contagious (contaminated) and unethical. Therefore, the content of unethical behavior can likewise be linked to disgust.

V. Discussion

A. The Dynamism of Negative Social Affects Early in the COVID-19 Pandemic

We analyzed social media data (YouTube comments) in the early stages of the 2020 COVID-19 pandemic to address the association between events surrounding quarantine policies of social distancing and negative affects. The affects of fear, anger, and disgust revealed a comprehensive pattern. "Comprehensive" here means that negative affects are distinct from each other and connected. Moreover, in social crises, citizens' cognitive judgment factors, that is, the contingency, intensity, and pattern of threats, significantly affect individuals and groups. Furthermore, our analysis shows that the negative affects causally linked to citizens' judgments on social situations are related to the dynamics of the politics of quarantine concealed in the so-called "political quarantine" and "scientific quarantine" debates.

	EVENTS	ATTRIBUTION FACTORS			INTENSITY OF SOCIAL DISTANCING POLICIES
		DISGUST	ANGER	FEAR	

2020
Jan. — Wuhan
Feb. — Shincheonji Church
Mar.
Apr.
May. — Itaewon Club
Jun.
Jul.
Aug. — Sarang Jeil Church
Sep. — Taegeukgi Crowds
Oct.
Nov.
Dec.

DISGUST:
- Unsanitary problems in Wuhan's Huanan Market
- The habit of eating wild animals
- Religious closedness
- homophobia
- The seclusion of the religious community
- Political rightward drift

* "Political Quarantine" discourse to sway the ruling party

Strengthen citizen support for quarantine policies by the affective politics of disgust

ANGER:
- Socio-moral violation: diffusion of mass infection due to violation of quarantine rules

FEAR:
- The contingent threat of coronavirus and the lack of information about it

INTENSITY OF SOCIAL DISTANCING POLICIES:
Three levels of social distancing, which were implemented on March 22, 2020, and expanded to five levels on November 1 of the same year.(Korea Disease Control and Prevention Agency)

22 Mar.-19 Apr.
16 Aug.-
30 Aug.-13 Sep.
-11 Oct.

"Scientific Quarantine" Discourse of Government (social distancing policies: Level 2.5)

Level: 3 2 1 0

*Cases in which social disgust could influence decision-making in quarantine policies in the latter half of 2020.

Figure 2. *Politics of Quarantine by Social Disgust and Negative Affects during the COVID-19 Pandemic*

As seen in Figure 2, negative social affects such as fear, anger, and disgust show interconnected patterns. The leading causes of each affect are different and can influence each other. Two aspects are noteworthy as causes of fear—the threat's contingency and relative intensity. First, the absence of information increases the intensity of social fear. When the media mainly reports news about the fatality rate of COVID-19, the absence of information about the cause of the threat strongly leads to negative affects. Fear appears when information about the strength and pattern of a threatening object is lacking, accompanied by an avoidance response to that object. Consequently, fear is present throughout the pandemic. Fear can motivate people to voluntarily maintain

social isolation and hygiene, such as social distancing for public health.

Korea has already experienced similar infectious diseases such as SARS and MERS-CoV. As can be seen from the topic modeling results, related information was circulating through social media (Kim 2020; Min 2020). When information was deficient at the beginning of the pandemic, the COVID-19 infection rate was higher than that of MERS-CoV, and the virus had a relatively low fatality rate. However, the information that vaccines and treatments were unlikely to be developed may have cause fear.

Meanwhile, social anger is influenced by citizens' judgment and interpretation of the cause of the threat. According to Scherer (1997), if the reason is unethical, it can be strongly expressed in the context of a pandemic that transitions to specifying the causes and objects that threaten society by making the quarantine fail. Our analysis has recorded anger, which shows that social anger continues throughout the study period and is described variably. This variability of anger is because not only are the causes of outbreaks and quarantine failures continuously changing or added at each stage of the epidemic but also citizens' attitudes toward them are changing. This is the intensity of anger at the time of events that can shift responsibility to specific targets, such as Wuhan, China (Jan. 2020-Feb. 2020), which reported the first case of the infectious disease, and the Shincheonji Church incident in Daegu City (Feb. 2020-Mar. 2020), which caused a large-scale infection to spread.

Moreover, while social disgust arises from causes similar to anger, it can also be affected by disgust-inducing characteristics such as heterogeneity and contamination. Our analysis confirmed that the expression of affects continued in the early stage of the pandemic. The social disgust that emerged from the politics of quarantine in Korean society can last longer, despite its lower intensity, compared to fear and anger. Since disgust is an emotion of exclusion for filth, it does not quickly disappear as long as a disease such as an infectious disease exists. This can also apply to moral pollution. The morally polluted, that is, disgust of social actors who rejected "legitimate" quarantine and polluted society can last long. This interpretation is also supported by studies showing that disgust persists even when anger due to moral issues disappears (Russell and Giner-Sorolla 2011; Salerno and Peter-Hagene 2013).

B. Implications of Social Disgust in Korea

"Affect" has the same etymology as "infect," and the pathology shows that affect is similar to the characteristics of infection (Spezzano 2014). Its material characteristics are also the basis for viewing affect as influencing the relationship between social actors

(Seigworth and Gregg 2010; Lee 2020). Furthermore, the affinity of affective and infectious qualities implies that events in the context of an infectious disease are the realization of relationships of power (Lee and Kim 2023). Regarding the COVID-19 pandemic, we can say that quarantine is political. Our analysis, conducted according to the cognitive-emotional evaluation model, supports this feature of affects. In this study, social disgust at the onset of the pandemic was particularly strongly expressed in two ways in which disgust is related to the politics of quarantine. Furthermore, the manifestation of this disgust is related to the politics of quarantine in the following two ways.

First, social disgust is expressed to "exclude" alien beings. When heterogeneity and unethicality are combined, they are more strongly expressed. For example, during the COVID-19 outbreak, reports that Wuhan residents ate unfamiliar animals, such as bats, in an unsanitary manner and that this transmitted the virus to humans triggered intense social disgust against China. As shown in Table 3, keywords such as "animal, wild, virus, bat, china, infection, Wuhan" that appeared under the topic of Wuhan city and infectious diseases in China are related to eating raw things and their potential heterogeneity. It comes as a direct response from citizens.

On the other hand, topics composed of keywords related to Shincheonji symbolize large-scale group infections centered on Shincheonji churches. These symbols are data showing how the politics of disgust potentially work. The Shincheonji church incident in Daegu City (Jan. 2020), which triggered the large-scale spread of COVID-19 in Korea, is a representative case in which social disgust toward heterogeneity of the religious group was expressed. These characteristics also appear in the Itaewon Club mass infection case (May 2020). Social resentment over the unethical behavior that caused the mass infection is expressed with social disgust, which regards heterosexuality as usual and pure, and its violation as immoral (Haidt 2001; Abbott, Tyler, and Wallace. 2006; Horberg et al. 2009). This is consistent with the argument by Rozin et al. (1999) that behind the unethical causes of anger is the heterogeneity of the causes of disgust.

Second, the operation of social disgust to exclude foreign and threatening factors and members is closely related to the tendency to maintain community safety. As can be seen in Table 3, comments related to Wuhan, China, and Daegu, South Korea (where the large-scale infection by the Shincheonji occurred) appeared in the form of completely isolating risk factors from safe communities. Social disgust does not appear only in condemnation, rejection, or exclusion. It is also expressed in a way to "purify" the dirty. This is related to the safety of the community. Purification is the act of restoring something that has been polluted. Social disgust strongly criticizes unjust and unethical

things but is also expressed to return them to their opposite state. This is also supported by Douglas's (2001, 99) argument for the anthropological origin of disgust. As unclean things should not pollute the core of a community, sacred beings, or spaces, there is a tendency to exclude foreign and unfamiliar things from outside the community and to restore contaminated things through purification rituals (Weiss and Zellentin 2016).

C. Politics of Quarantine by Social Disgust

Our analysis confirms that when the conservative group of Sarang Jeil Church held a mass demonstration in Gwanghwamun in August 2020 in violation of the government's quarantine policy, social disgust intervened in the politics of quarantine. This demonstration is a significant event in which citizens' social concerns and anger over the spread of a large-scale infectious disease were expressed. As shown in Table 4, the topic before the assembly mainly comprises vocabulary such as "church, minister, worship, father, thought, words, religion, online, personal, prayer, bible, COVID-19." However, after that, when a large-scale group infection occurred centering on the protest participants, the topic changed to words such as "politics, person, press, occur, responsibility, COVID-19, Jeon Kwang Hoon, Gwanghwamun Gate, police, relation, accident." At that time, as the number of infection cases centered on religious groups increased after the Shincheonji Church infection case in Korea, Protestantism began to be considered an object of social exclusion (Byun 2020; Doh 2020). At that time, media reports about unethical behavior, such as violent acts by church members regarding the redevelopment of the Sarangjeil Church building by Pastor Kwang-Hoon Jeon, spread in the Korean mass media (Bae 2020). In this process, Pastor Kwang-Hoon Jeon's church, believers, and the far-right forces who defended the Gwanghwamun protest were represented as the objects of anger for spreading infectious diseases and unethical behavior. This was combined with disgust for its closed religious' community, and far-right political drift revealed through the infection of the Shincheonji Church. Up to this point, it is the same as the operation method of social exclusion by disgust, as discussed above.

However, as the expression "political quarantine" coined by conservative groups takes issue with the government's quarantine policy and spreads to society, the affect of social disgust acts as an opposing force for purification. After the Sarangjeil Church incident, a debate arose about the political nature of the state-led quarantine policy. Unlike the participants of the Gwanghwamun protest criticizing the government's quarantine as a "political quarantine," the large-scale infection among participants that

occurred after the Gwanghwamun protest rather served as a basis for discourse justifying the government's quarantine policy (Kim 2020; Yeonhap News 2020). The large-scale infection at a protest centered on a conservative Protestant group serves as an opportunity to justify that the government's quarantine policy is effective and that the state-led quarantine is scientific. Subsequently, the politics of quarantine can form a social atmosphere that justifies restrictions on citizens' basic rights. In the end, the affect of social disgust works in a way that justifies the restriction of basic rights to protect a society vulnerable to immunity by combining it with hygiene discourse while operating the mechanism of exclusion and purification. Unlike the study by Moon and Travaglino (2021), this can be interpreted as a factor that creates a favorable attitude among the citizens toward the government's social isolation and quarantine policy. This phenomenon represents the politics of quarantine in which political disgust combines with social disgust in the context of an infectious disease. This means that both "political quarantine" and "scientific quarantine" are political operations.

Moon and Travaglino (2021) take a slightly different approach, linking the politics of disgust to conspiracy theories. In the United States and other Western societies, conspiracy theories are a discourse that has been continuously produced and reproduced during the COVID-19 pandemic. Particularly in the United States, vaccine conspiracy theories based on fake news, combined with alternative right-wing forces that have expanded dramatically since Trump's election, have been the subject of numerous political and risk communication studies. As a result, there is substantial research on the relationship between social disgust, political quarantine, and conspiracy theories in the United States.

Conspiracy theories are often combined with alternative right-wing discourse and hate speech against minorities, which has expanded since Trump's election. The role of fake news and new media platforms (such as social media) that allow it to spread effectively is often discussed in studies (Ball and Maxmen 2020; Uscinski et al. 2020). During the COVID-19 pandemic, conspiracy theories have been shown to have the effect of undermining the effectiveness of mitigation policies or even neutralizing mitigation itself (Romer and Kathleen 2020; Shahsavari et al. 2020; Pummerer et al. 2022).

However, when looking at COVID-19 and conspiracy theory research in South Korea, a different picture emerges than that in the United States. In South Korea, conspiracy theories are mostly discussed in terms of government trust and government evaluation. Relatively few studies use conspiracy theories as a primary analytical concept. Instead, they all point out that conspiracy theories have been used to politicize quarantine policies and suggest that conspiracy theories may hinder the effectiveness

of the vaccination effort (Kim, Chang, and Jang 2021; Kim, Kim, and So 2022).

South Korea's COVID-19 conspiracy theories share similarities with those of the United States in that they are based on fake news, make the government the primary target for criticism, and exemplify the negative impact conspiracy theories can have on quarantine. However, the main difference between the Korean and the United States cases is the apparently and relatively small influence of conspiracy theories as a discourse to attack government quarantine policies, as well as that of political conservatism, such as the alt-right in the United States, appears to be relatively small.

In addition, the negative effects of conspiracy theories on quarantine in South Korea tend to be offset by citizens' trust in the government (Kim, Chang, and Jang 2021). This suggests, as discussed, that discourses that politicize epidemic prevention in South Korea reinforce the government's scientific epidemic prevention discourse. This means that anger and disgust towards the actors producing the "political quarantine" discourse can work to reinforce the government's social distancing policies that claim "scientific quarantine" (see Figure 2). A prime example is the proliferation of anger and disgust towards the Protestant Right and the justification of government quarantine policies following the Gwanghwamun protest in August 2020.

Moreover, conspiracy theories about quarantine and vaccines in South Korea often converge with the Protestant Right and fundamentalism. This can also be inferred from research showing that Protestant religion-related keywords continue to appear in top topics related to COVID-19. A study analyzing Christian conspiracy theories points out that Christian conspiracy theories in South Korea originated from fake news about the government at the time and notes a link between vaccine conspiracy theories and outbreaks within Protestantism. This study notes that conspiracy theories within Korean Protestantism are often characterized by a combination of eschatology and discourses such as "spiritual warfare" (Kim 2021b, 113-114).

On the other hand, the tendency to restrict citizens' basic rights in the politics of quarantine centered on social isolation is similar to the characteristics of exclusion and purification in the mechanism of social disgust. This is because exclusion and purification are realized as a taboo that guarantees the community's safety by creating a boundary with polluted beings. In a pandemic, social isolation chosen by many countries is the same as restricting the mobility of actors in earnest. This can be seen as an example of the governmentality of mobility. It also means that quarantine can more easily operate in a way that constrains the fundamental rights inevitably tied to movement. Here, mobility does not simply mean action within a space but encompasses all activities. This means that social isolation, which strongly restricts citizens' rights,

will likely be selected as a basic quarantine policy in the event of a future large-scale infectious disease outbreak without critical review. This governmentality of mobility is one of the political operations of biopower (Bærenholdt 2013).

In sum, the findings constantly emphasized that the politics of quarantine can be justified through scientific knowledge to be distinguished from "political quarantine." However, through the aspect of social disgust of exclusion and purification, the politics of quarantine that raised social concerns about the infringement of the basic rights of citizens while emphasizing the efficiency of hygiene, isolation, and quarantine is being realized. We see to propose the concept of the "politics of disgust" for the first time to describe this phenomenon, and we expect that through this, we will facilitate a more in-depth understanding of the politics of quarantine in the current and future large-scale infectious disease situation.

VI. Conclusions

Using social media data, we attempted to identify the connection between major quarantine-related events and the negative affects of the pandemic. We analyzed whether negative social affects were involved in South Korea's pandemic situation and their levels in the first year of the pandemic. It was confirmed that social disgust changes in a way that combines fear and anger in an infectious disease crisis and the impact on the perception of quarantine policies. The analysis uses discursive content from comments posted on COVID-19-related videos on YouTube. We applied the cognitive-emotional model as a theoretical model to explain negative emotions in social situations. We found that negative affects related to the COVID-19 pandemic are coupled with different cognitive states. For example, anger is stronger in events where actors (individuals and organizations) are identified, and disgust triggers stronger affects when combined with anger and fear. Fear, anger, and disgust play a crucial role, especially in contingency situations, confirming that political events and affects are not unidirectional.

This is how political disgust works when it is embedded in social disgust. It can also manifest itself in the political process when society utilizes disgust devices. An example is the discursive conflict over "political quarantine" and "scientific quarantine" in South Korea. For example, this study shows that the conventional debate on the conflation of conspiracy theories and sentiment may play out differently in South Korea. Consequently, unlike in the United States and elsewhere, attacks on quarantine policies in South Korea (such as the "political quarantine" discourse) enhance citizens' trust

in the government and justify increased quarantine.

Our results suggest the need for future research to focus on the relationship between the biopolitics of quarantine and the governmentality of mobility. COVID-19 can be seen as an example of restricting social actors' mobility. This means quarantines can operate in a way that restricts basic rights inevitably linked to movement. Mobility does not simply imply action within a space but can encompass all activities. The overall restriction of social movement associated with various types of assemblies may be due to the function of power to govern this mobility. Based on this, we would like to propose the concept of social disgust intervening in the politics of quarantine and the so-called "politics of disgust." Through this, we urge future studies to enable systematic understanding and interest in the action of social disgust in the politics of quarantine in the context of future pandemics. Finally, this study has the following limitation: it does not make causal inferences about the link between sentiment and social events. This is due to limitations in the metadata. Although there is metadata about time in YouTube commentary data, it does not meet the homogeneity of the sample, limiting the possibility of strict causal inference.

Declaration of Interest statement

We have no conflicts of interest to disclose.

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