

The shifting of the public opinion towards
immigrants and refugees:

A corpus assisted discourse analysis of the
impact of the hierarchical media framing of
migrant social identities

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ABSTRACT

This work explores the shaping of public opinion on migration in South Korea by utilizing BERT modeling (Grootendorst 2022) which extends transformer language models to Top2Vec (Angelov 2020) which leverages word semantic embedding to find topic vectors from documents. Data are the public discourse on Twitter and the three biggest local newspapers. The study examines the content of these topics, highlighting key themes and their implications. Criminalization and victimization frameworks are found in the media narrative. Predominant topics in the public opinion are found to be sources of union, with topics centering around shared experiences as migrants, language learners, and neighbors. The findings through BERTopic modeling as a tool of discourse analysis on large data shows a complex narrative creating distinctive concepts of migrants, divided into clustered groups to justify confrontational arguments and ensure the potential for union against the exploitative capitalist government policies is limited by the alienation from native workers. To confront this divisive narrative, emphasizing the importance of elevating class awareness in the public discourse can foster alliances between local and migrant workers. The theory that capitalist ideologies have negatively shaped the image of immigrants through media coverage painting migrants as scapegoats for economic crises is quantitatively studied through the analysis of topics in news articles to bring nuance to the understanding of the framing of the migrant coverage in the major South Korean newspapers. The most common frames found in the mass media are criminalization frames and victimization frames, while the most common narratives in the online discourse includes personal experiences as migrants and workers, desire to share language and culture, and compassion for immigrants in vulnerable situations. The acceptance of policies of “compassionate repression” (Didier Fassin, 2005) may be eased by a migrant discourse shaped by these frames. The salience of migration related keywords in the biggest local search engine Naver shows

increased interest in immigrants and refugees in times of increased coverage, highlighting the role of mass media on the formation of the public opinion. Moreover, a strong distinction between immigrants migrating for either economic reasons and humanitarian reasons as a distinct binary is propagated in the mass media and correlated to the justification of oppressive migration governmental policies. We find that mass media coverage effectively forms, not a negative opinion through an exclusively negative coverage of migrants, but a divisive opinion, through the separation of groups of migrants into a hierarchy of “good” to “bad” migrants, based on work status and identity politics. As a result, despite shared experiences as migrants and workers, the public discourse is pushed between xenophobia and pity through charity. The extent of the influence of the media coverage on the public reaction with positive and negative views about migrants expressed in social media was further analyzed to find sources of union between migrant and native workers through shared experiences, identities, and class status. Frames of compassion, interest in communication, and understanding of shared social identities between oppressed groups, remain present in the public discourse and show potential for union between local and migrant workers under the condition of an accrued advocating for class consciousness in new media.

Keywords

Trend analysis, Social media, BERT Topic modeling, Criminalization, Victimization, Compassion, Repression, Migrant discourse

I. INTRODUCTION

This study explores the multidimensional aspects and dynamic changes of immigrant perception by examining the recurrent topics in the public migration debate in South Korea, and relates it to the discursive representation of migrants found in Korean newspaper articles published online.

It examines how depictions of migrant workers as scapegoats for government welfare cuts and for the employment crisis in mass media is used as a divisive tool to separate the working class based on identity politics, painting migrant workers as separate from local workers in order to deny citizenship and justify exploitative migration policies. It further investigates how the negative depictions of migrants in mass media is not passively accepted, but refuted and nuanced in the online public discourse, and the extent to which divisive ideologies based on identity politics, i.e. race, gender, disability, sexual orientation, religion, actively distance and weaken the migrant labor class.

With 4.1 billion social media users in 2020, new forms of data from social media, digital traces, provide unique insights by overcoming the dataset limitations and offering access to dated public opinions, with data produced at an unprecedented temporal frequency. Using digital traces to study demography, computer science researchers have the opportunity to use voluminous datasets to produce quantitative research to support and expand qualitative research on human behaviors, on themes like migration, identity and citizenship. This social data comes under the form of "digital traces" (Latour, 2007), such as comments and interactions on social media platforms like Twitter. As it is generated continuously, both the immediate and long term impact of social events can be investigated. By using digital traces such as tweets, we can analyze the frames of migrant perception and bring nuance to the analysis of the

migration debate. With this new understanding of migrant sentiment, it becomes possible to develop new strategies for social cohesion, by alleviating migrant responsibilities on assimilation and focusing on the decriminalization of migration. The study is carried out over six chapters. Following the introduction in Chapter 1, Chapter 2 introduces the migration history and current migrant policies in South Korea, and presents the weaknesses and challenges of identity politics in the study of racism in the context of capitalism. Then, the existing quantitative discourse analysis methodologies are reviewed to conclude on the use of a framework to guide the topic model in the methodology presented in Chapter 3, where the parameters of the language model and the characteristics of the datasets are stated. Chapter 4 then presents the topics obtained from the Mass media corpus, the New media corpus and the Public Opinion corpus. The findings are discussed in Chapter 5, with a detailed analysis of the most salient topics. The discussion explores the divisive arguments, namely the scapegoating of immigrants in times of economic crisis through criminalization and victimization frameworks, are propagated in the media narrative and met by the local working class, either integrated or refuted with narratives of personal experiences and alternative independent coverages of migrant related news.

Moreover, the social identity based victimization framework found in the media narrative, with women and refugees painted as victims without agency nor political power or right to claim basic human rights, is found to be a topic of intersectionality in the public opinion narrative, with keywords related to discrimination and all social identities. This shows how even the divisive identity based narrative can also be the source of understanding and empathy between groups sharing one common identity, and a starting step for further mobilization in the broader class of workers.

The main findings of the study are summarized in Chapter 6, with a conclusion offering suggestions addressing the limitations of this study for future research.

The study concludes on the role of the distancing of the topics in the migrant debate, as the media narrative divides migrants into groups based on their social identities to then label them as victims or criminals. This arbitrary separation is used to justify restrictive visa regulations, and weakens the union between oppressed groups fighting for the reframing of the definition of citizenship and of legal migration and borders post colonialism. Redirecting focus from social identities as the root cause for one's condition, toward a broader class struggle awareness, where identity based oppressions are a tool for the exploitation of the whole of the working class, can provide direction to challenge the scapegoating of migrants in the media narrative.

II. LITERATURE REVIEW

Global Capitalism and Migrant Labor

In global capitalism, borders are strengthened through militarization, border controls, repressive anti-immigrant policies, and the formation of anti-immigrant hate through the scapegoating of immigrants for the toll of the capitalist exploitation of the working class and natural resources.

William Robinson (2014) argues that the new global capitalist system has deepened the reliance on an immigrant labor reserve. In order to exploit the migrant labor force, the state aims to control it by putting immigrants in a vulnerable situation through the criminalization of undocumented migration. In addition, the very tools for migration controls are themselves used as added sources of accumulation, with the militarization of borders and for-profit immigration detention centers. Finally, the attention for the roots of the economic crisis is deflected by scapegoating migrant workers as the source of the low welfare levels and the exploitative conditions of all workers. This formation of xenophobia is additionally used to justify the creation of more exploitative migration policies and undermine working class unity. Through a viewpoint of class based exploitation in the study of racism, identity based oppressions such as racism, ableism and sexism, come from capitalism. The alienation of the workers, from the wealth produced, from power in the system, and from each other, is inherent to the oppression of the proletariat. As the producers of the goods, laborers have power over the elite, which cannot accumulate capital without continuous production of goods. Through strike, workers hold a potential for revolution against the capitalist system of exploitation. With the union of the working class, mass protests and social movements fighting for justice emerge, with a potential for revolt against the capitalist system, and a possible eradication of the bourgeoisie class. Capitalists must then prevent this union en

mass, and need to divide the workers in order to control and rule the working class. To do so, the bourgeoisie class uses and propagates racist ideologies, using migrants, refugees, foreigners, as scapegoats. Putting the blame on a subgroup of the working class is a way to divide workers and make them compete against each other, efficiently diverting the working class' anger at rising costs of living, deteriorating work and living conditions, expensive public services, and low wages. Capitalism thus creates a climate where racism is normalized, with politician speeches, biased media coverage, and government policies labeling migrants as responsible for economical issues resulting from labor exploitation. The topics in the framing of migration, shaped by racist, ableist, sexist ideologies propagated by the press and politicians, allows for the formation of a division between workers based on a modern definition of citizenship limited by state borders.

To confront this division of the working class, strong class awareness is necessary. However, class politics has been eclipsed by a new social movement of identity politics.

Michael Kearney (2004) argues that rather than focusing on the multifaceted and dispersed social identities of migrant populations to improve their circumstances, it is changing the space in which they migrate that is necessary. This requires a departure from a social identity based approach of the study of discrimination, to a broader class-based perspective.

Charlotte Puiseux (2022) further argues for an anti-capitalist perspective in the deconstruction of disability, genders and sexualities. She develops a crip theory placing disability and sexualities at the heart of social dynamics constructed to fit the capitalist system, deviating from medical oppositional definitions of non-standard versus standard bodies, which separates the two based on labor productivity in the ableist capitalist system.

Jeong Jin-hee (2023) presents the limitations of identity politics in the context of South Korea and the emergence of confrontational feminism. Under the assumption that discrimination is not systemic but innate to one's biological definition, exploitation is blamed on oppositional identities. This opposition between members of the same class results in a loss of direction in the resistance against the elite's exploitation of the proletariat class. The root of these imposed confrontational binaries is not questioned, and modern binary concepts of gender, disability, race, sexual orientations, are not only accepted as scientific fact, but also used to explain an innate discriminatory mindset any human would be born with along with this set of fixed identities. A class-based perspective, on the contrary, studies the history of the emergence of new definitions of identity, such as the concept of biological race to justify slavery, or binary gender roles to promote the nuclear family.

Engels explains the nuclear family as a social unit developed to serve the capitalist system through the production of laborers by women. As nomad communities settled into a sedentary lifestyle and developed agriculture, the need for numerous laborers emerged. In order to increase the rate of laborer production, division of labor pushed women into antagonistic gender roles where women's reproductive labor could be exploited in the family unit. He argues that this exploitation of women by their husbands is thus not human nature, but a result of capitalism.

Sunhye Kim (2019) illustrates the power of union between shared identities in the resistance against capitalist exploitation, with the case of the reproductive justice movement decriminalizing abortion in South Korea in 2019. The movement successfully shifted the discourse from a "life versus choice" narrative, to the accountability of a government controlling people's sexuality and reproductive rights.

As gender statistics highlighted gender inequality in South Korea's economy and politics, with a women's-to-men's earnings ratio standing at 64.6 percent in 2021 (statistics from Statista), the danger of identity politics pushing workers into confrontational seats and reducing the possibility of organized unionized resistance against capitalism exploitation, highlights the need for a broader class consciousness in the public discourse on discrimination. Consequently, this study focuses on the exploitation of migrant workers with a class-based perspective, under the assumption that the exploitation of any group of the working class, as migrants, locals, of all disabilities, race, gender identities, sexual orientations, or religions, leads to the aggravation of the exploitation of all workers. (Lim Junhyung, 2022)

Balibar, Étienne thus questions the origins of racism in "The Construction of Racism" (2005). Rather than a focus on one social identity such as race, he argues for studying the structures producing the conditions of racism, such as access to "social welfare, equal rights, education, and moral and religious tolerance". Yuval-Davis, N. (2016) argues for intersectional mobilization, across social identities, and studies the "sociological understanding of power" ("Power, Intersectionality and the Politics of Belonging", 2016). She analyzes social stratification through intersectionality theory. In this research project, the fragmentation of migrants based on their social identities is studied quantitatively: the distance between subgroups of migrants separated into distinct categories, is visualized through intertopic maps.

Taking South Korea as an illustration of the state control of immigrant labor in global capitalism, the history of the modern Korean labor context leading to the current repressive immigration policies is briefly introduced.

Background

Due to the economic regression following the 1997 Asian financial crisis, the South Korean government reformed the country's policy towards globalization, with the support of IMF and chaebols. IMF lended a "bailout package" to reconstruct South Korea's economy, with capitalist conditions to ensure repayment. Kuk, Minho (1988) suggests these regulations focused on short term economic progress, at the detriment of long term development, such as education and a welfare system. To overcome the economic crisis and enter the global market through neo liberal globalization, South Korea divided its working class between standard workers and contingent workers. Freelance workers have limited rights and a restricted access to welfare. As corporations replaced existing workers with contingent workers, the unemployment rate increased, and a division between standard and non standard workers appeared.

Through this rapid economic growth, South Korea transitioned from a labor exporting country to a host country for foreign workers. During this industrialization period and up until the 1970s, South Koreans labor forces were exported abroad, resulting in direct foreign exchange remittances used to finance domestic development programs, improved international trade, as well as knowledge of advanced technologies to further promote long-term economic development. (Kyeyoung Park, 2014)

The workforce needs of the newly developed industrial economies, requiring so-called "unskilled" workers in 3D (difficult, dangerous, dirty) jobs, surpassed the available local labor force. With an increase in blue-collar jobs, improved wages, and a rising educated population reluctant to work in 3D jobs, small enterprises and farms struggled to fill their production needs. To answer the issue of labor shortages, the South Korea

government turned to foreign labor. However, workers were then not allowed to migrate to South Korea for work. Consequently, in order to promote the inflow of cheap foreign workers, the government allowed for official, legalized labor migration, and developed a program in 1991 to train foreign workers in overseas Korean companies, program evolving into the Industrial Trainee System in 1993, which legalized the entry of foreign “trainees” into South Korea for the first time. (Chin Hee Hahn and Yong Seok Choi, 2006)

Under this program, thousands of trainees filled the labor shortage in manufacturing industries, constructions, fishery and agriculture enterprises. Concurrently, this permit was highly restrictive, notably in terms of duration of sojourn, which was limited to 2 years, extension included. “Trainees” were not official workers, thus excluded from labor laws’ protection. Despite performing dangerous tasks in precarious environments, they were thus not included in the industrial accident compensation assurance, nor basic health insurance. Left unprotected from workplace abuse, and hastily replaced by new migrants as their Visa swiftly expired, workers were pushed towards irregular work. Following numerous reports of abuse of human rights, the system was revised in 2000, recognizing laborers as employees and extending the maximum legal stay to three years. With a still strikingly short length of sojourn, no freedom of change of workplace, corrupted recruiting agencies with high brokerage fees, increase of irregular workers, abuse of human rights reports continuously surfaced under the revised Trainee System. In 2003, it would finally be replaced by the Employment Permit System, abandoning altogether the notion of “trainee”, and recognizing the imported labor force as workers.

Nonetheless, the new system plainly put economic interest over workers interests in its policies. Indeed, focused on the industries it is providing workforce to, rather than the workers themselves, the EPS presents similarly restrictive policies, such as the

conserved restriction of change of workplace and the conspicuously short, 4 year long, maximum length of sojourn. In addition, family-unit migration is still not allowed, further isolating immigrants from a possible community. During those four years, with limited language learning options, and no possible evolution towards longer visas, there are very few opportunities to integrate into a community, let alone build one. Carefully kept as temporary workers rather than permanent residents by governmental policies, migrants are obstructed from building a community.

Under this restrictive work system in South Korea, labor migrants are surviving under poor working conditions such as extended work hours, delayed wages, physical and mental demands, no rest periods, no job security, nor protection from workplace harassment (Kim, Wang-Bae, 2004)(Jeong, Yeong Seob, 2012). Lim, Timothy C. (1999) argues that, not only do these restrictive migration policies induce the deregularization of the migrant workers, this criminalization is also not accidental: “exploitation and brotherhood simply do not mix” (p.338). He elaborates that the government purposely loosened entry regulation for foreign workers, then followed by strict, criminalizing labor laws. The resulting undocumented workers are then easier to exploit. Workers are given permission to enter and to work, then face extreme difficulty to conserve their legal status. A combination of open borders and quickly attributed illegal status makes it possible to have a “cheap, docile and flexible labor force” (Basnet Prabha, Jin-Wan Seo, 2016) that the native population is inclined to continuously perceive as “other”, temporary.

Simultaneously, marriage migration to South Korea emerged as an answer to the country's demographic challenges and the desire for rural residents to find marriage partners. The history of the marriage visa began with the deregulation of the marriage

industry in 1999, which facilitated the entry of marriage migrants and provided a reproductive immigrant labor reserve. (Erin Aeran Chung, 2021, Lee, Y., 2006)

Reproductive and caregiving labor, including child-rearing, household chores, and caring for the elderly, which play a crucial role in the development of future generations of workers, could be carried out by immigrants, specifically women migrants, as unpaid labor, thereby relieving the state from the need to allocate additional resources for welfare provision. Women migrants, both within and outside of the status of marriage migration, represent a substantial proportion of the migrant population in South Korea. Women in particular are put in a dangerous situation. Foley, Laura and Piper, Nicola (2020) find that migrant women "disproportionately work in more precarious, insecure and informal employment", performing gendered work as migrant domestic workers. Because of their live-in positions, losing their "job also means losing their accommodation and often their work permit". Then, because of the policy tying their visa to their employer, domestic workers "are trapped at home all day with their employers and many face violence within these households". (Foley, Laura and Piper, Nicola, 2020) In addition, in this already precarious situation, in case of pregnancy, "migrant women lose their jobs when they become pregnant and are forced to become undocumented migrants without health insurance and visa status" (Park Christian Joon , 2020). The research of Park Christian Joon (2020) finds that among the public clinics welcoming irregular migrants, only three had a delivery room.

The population of women migrants in South Korea is considerable, as before seeking foreign workforce, the South Korean government sought foreign brides in the 1980's. To promote the influx of marriage migrants, legal status and resident visas were implemented for marriage migrants, exclusively. (Song, Jiyeoun, 2016) Despite legal status, major issues remain, as the migrant's residency permit is still owned by their husband, putting them in a highly vulnerable, dependent situation. For example, if one divorces after forming a family, their visa terminates once the children reaches the age

of 18 years old. There again, the migration policy illustrates the capitalist objective of importing reproductive labor, through forming a family unit, producing laborers, and providing education and family welfare until they reach adulthood, where citizenship is then denied. In a capitalist system, citizenship is accorded in relation to one's recognized work status. As reproductive work and irregular work is not recognized, irregular migrants and marriage migrants can be alienated from workers rights policies, and be exceedingly exploited by the government. Song Jiyeoun finds that "different boundaries of citizenship for specific groups of the foreign population, created and reinforced by the state, explain variations in the politics of immigrant incorporation policies".

Asylum seekers in South Korea face this alienation from citizenship recognition at drastic levels, with an average of 1% refugee status granted yearly by the Ministry of Justice. Status is denied based on purposes of migration, which in 99% of cases, the Ministry of Justice considers not as humanitarian, but economic purpose, not deemed a "real" purpose, leading to the label of "fake" refugee. NANCEN therefore reports 79 refugee status granted for the 15 452 applicants in 2019, and 144 granted for the 16 173 in 2018, during the 5th anniversary of the Refugee Law in South Korea. In 1992, South Korea signed the UN Refugee Convention and established a refugee recognition system to grant refugee status and provide protection to individuals fleeing persecution. The Refugee Act of South Korea was enacted in 2013, and established the criteria and procedures for recognizing refugees according to the UN Refugee Convention. However, the country took a restrictive approach: there again, the employment of refugee applicants is limited to 3D jobs. This restriction of freedom of work reflects the government's perspective for exploitation to even asylum seekers. In addition, the application process takes years, leaving asylum seekers to an endless administration wait during which organization is hindered. The exclusion of refugees is possible

through the promotion of racial discrimination. Undocumented migrants face this same alienation. The Migrant Trade Union, MTU, activity was continuously restricted by legal obstacles. Founded by undocumented migrant workers primarily from Bangladesh and Nepal as a reaction to intensive police crackdowns, the union organized sit-in protests in Seoul, bringing visibility to their working conditions. Through union and protests, after 8 years of battling in court, they managed to gain the right to unionize in 2015. Refugees in South Korea are also active in a social movement with regular protests to denounce the years-long application process and demand the recognition of refugee status.

The criminalization of immigrants is thus used to restrict the organization of the workers into unions. Based on the Ghanaian refugee application process, Udor Rita (2019) studies the process of production of illegal status in South Korea, naming it “institutionalization of precarious legal status”. She finds that “the current binary classification of migrants as legal versus “illegal” fails to explain why migrants deemed as legal are unable to enjoy full rights and find themselves perpetually vulnerable to falling into undocumented status.” and concludes that “government actions and inactions contribute to the legal production of ‘illegality.’” Moreover, she highlights the difficulty this causes in research: “the lines between legal versus illegal are blurred, thereby making the status of migrants who fall in between these categories, and are never captured, precarious”.

Tari Young-Jung Na (2023) points out this strategy of alienation and incarceration in South Korea, with an example of the indefinitely detained unregistered aliens in Immigration Detention centers, and the case of the disability liberation movement. Tari Young-Jung Na designates the concept of “state approved identities”, and argues that the government’s institutionalization of people whose “ability to pay taxes and to

consume, as well as on one's citizenship status" is used to justify the deprivation of human rights.

Yang-Sook Kim and Yi-Chun Chien (2021) thus question the construction of citizenship. They argue that civil society, through unions and social movements, has pushed for the redefinition of citizenship, and influenced regimes into more inclusive conceptualization of citizenship. Legal status of an irregular migrant is thus not a fixed definition, but a moveable term.

Currently, the most commonly issued visas in South Korea are, in order, the following. E-9 Visa (Employment Training, most common): issued to foreign workers who come for employment in specific industries such as manufacturing, agriculture, construction, fisheries. F-6 Visa (Spousal Visa, third common after the Permanent Resident Visa F-5): residence visa issued to foreign nationals married to a South Korean citizen. It is typically granted for a period of one year initially and can be renewed based on the individual's eligibility. The F-6 visa is tied to the marital relationship: thus, once the child reaches adulthood, their dependency on their parents may no longer be a factor in maintaining the visa. The H-2 Visa (Industrial Trainee/Non-Professional Employment, 4th most common): issued to foreign workers engaged in employment in non-professional fields to address labor shortages in sectors such as manufacturing, agriculture, and fisheries. To obtain an H-2 visa, foreign workers need to be sponsored by a Korean employer who has been authorized to hire foreign workers. The H-2 visa is a temporary visa and does not lead to permanent residency or citizenship in South Korea. The F-1 Visa (Family Reunion, 6th most common, after Work and Visit Visa H-2 and Student Visa D-2): for family reunification. It allows eligible family members to join their South Korean family members in the country. The family member can reside

with their sponsoring family member, but as a temporary visa category, it does not lead to permanent residency or citizenship in South Korea.

With this understanding of the history of the South Korean globalization period, and the resulting division of the Korean labor force, the formation of immigration sentiment can be studied as a capitalist tool of division of the working class.

Mass Media and New Media

Despite their active contribution to the economy as workers, immigrants often face negative perceptions, which can result in discrimination. Negative perceptions of immigrants, despite their economic contributions, can stem from the tendency to scapegoat immigrants for societal issues. Islamophobia in particular, contributes to the stigmatization and marginalization of Muslim immigrants. There is a discrepancy between people's attitudes towards refugees outside of their country, where they may show compassion, and their reluctance to accept refugees within their own country. One reason is the perception of refugees as a potential burden on local resources, such as housing, healthcare, and employment opportunities. Concerns about cultural differences, national security, and the fear of economic competition can also influence public opinion. Competition for jobs between migrants and native workers is based on an illusion rather than a reality. Immigrants and native workers tend to occupy different segments of the labor market, with immigrants often filling positions that are in high demand or have labor shortages.

Marxist views argue that the media is not a reflection of the audience: it is controlled by the ruling class, and allows them to use the media to dictate the political ideas of society, which reflect their own position in the ruling class, in order to reinforce the ideology of the ruling class. Ralph Milliband (1973) argues that the media plays an

important role in promoting the ideas of the ruling class onto its audience. He suggests that this is done by creating partisan views, and that the audience is a passive recipient who fails to critically analyze the source, or consider an alternative view. As a result, the media can control the masses. The media owner can choose the frame of the social issue presented, such as victimization and criminalization, to preserve their position of power. As mass media is concentrated into the hands of few owners, they can dictate the discourse.

Curran (2003) finds that the political ties of media owners, and the shared similar ideologies encourages media elites to promote supportive views of conservative ministers, reinforcing the idea of the ruling class to control the public discourse and avoid a revolt against capitalists. In 1973, Ralph Milliband argued that the audience received partisan views passively. But the growth of critical content with the new media shows that individuals are not passive consumers. With the internet, critical views of mainstream politics are available online, which means that the audience is less passive than previous generations.

Postmodernists argue that in the modern digital age, society now faces media saturation. While Marxist views suggest that media is concentrated between a few elites, the emergence of new media was accompanied by the increase of media content and media ownership. Individuals can select the media they choose, which reflects their own views and reaffirms their own world view. Whilst echo chambers are a consequence of this gravitation towards media reaffirming previous beliefs, this choice also creates more diversity, a broader range of content, as the audience has more choice and power in the now competing media sources.

Pluralists thus view media as a demand based business, where the audience has power over the competing media sources. The postmodernist, Baudrillard (1998) suggests that

media saturation causes the audience to lose the ability to discern reality and “hyperreality”, a constructed media version of society, removed from reality. Lyotard (1991) argues that individuals reject the media’s narratives, “metanarratives” and distrust the media pushed by owners, which leads to the distrust of experts, and the formation of echo chambers.

While pluralists argue that the increased range of media sources outside of the traditional media sources available reflects the variety of groups in society, and thus the ideas of different social groups, Marxist approaches view the choice of media as an illusion.

With New Media, such as Twitter, two perspectives on media emerge. Curran and Seaton (2003) define one positive view, the Neophilic view, which associates increased choice, engagement, and democracy with new media. And they define a second, negative view, the Cultural pessimist view, which associates increased cyber bullying, cyber crime, promotion of extreme values like xenophobia, and the replacement of informed content with new media.

The Neophilia view argues that the interactive nature of new people leads to an increased engagement, as people can express their opinions, and join in social activism. #BLM is an example of a social movement amplified through social media. Neophilists claim that new media can revitalize democracy: issues not covered in mainstream media can be put in the spotlight, reactions to political decisions can be shared immediately, individuals can promote campaigns addressing specific social issues.

The role of mass media in the shaping of the public’s attitude toward governmental policies is critical and used by elites to support their political agenda through the propagation of oppressive media coverage. Elites thus bought hard mass media brands in order to gain political influence and shape the public’s political opinion. This biased

media coverage can influence the public opinion in tolerating oppressive government policies, reducing social welfare while cutting taxes on the rich, while putting oppressed groups such as migrants as scapegoats for the living conditions and poverty resulting for this oppression. The second richest person in the world, Jeff Bezos, thus bought the Washington Post for 250m\$ in 2013.

With social media networks however, the public discourse is not contained to hard news owned by the rich, and offers multi faceted opinions and information sources on social issues. There is potential of social media in organizing unions and opposing biased coverage from the elite via free speech of the proletariat class. Social media offers a platform for people to engage in activism, to organize social movements, and promote political oppositions. But with the world's richest 12th person, Mark Zuckerberhg, owning Facebook, and the world's richest person Elon Musk buying Twitter for 44 billions \$ in 2022, the freedom of choice of media with the "democracy revitalizing" new media, is questionable.

While the interrelation between mass media, public opinion and governmental policies, is not clearly defined, the interest of the ruling class in its ownership shows it aims to control it to influence public opinion by framing news. At the same time, whilst the oppressive frames propagated in hard mass media is visible in the public opinion expressed in social media platforms, the power of social media in organization of unions and distribution of independent news shows potential for class awareness and union against the oppressive elite. It offers an organizing tool for the working class, who may not passively receive biased portrayal of the media, but respond with opposing arguments and information from first experience users.

Thus, in this study's local context of South Korea, the three major newspapers in South Korea are Chosun Ilbo, JoongAng Ilbo and DongA Ilbo, all three conservative newspapers. As the most circulated newspapers with a shared political inclination, they are grouped together as ChoJoonggong (조중동, CJD), an acronym appearing in 2000 presenting them as the basis of the conservative South Korean media. These newspapers are in the hands of big business chaebols (재벌), large business conglomerates that dominate the South Korean economy.

The origin of chaebols can be traced to 1960. In order to industrialize and develop economically, the South Korean government provided fundings to specific industries, which would in return follow the governmental economic strategies. The supportive relationship between the South Korean government and the chaebols emerged and grew stronger, and chaebol family members entered the National Assembly and South Korean politics. The massive media groups, CJD, can dominate the country's hard news: owned by rich elites, it presents the news for the elite in positions of power supporting their capitalist ideology, which include the government.

Chosun Ilbo has a daily circulation approaching 2 million, and a right-leaning editorial stance. JoongAng Ilbo, previously owned by Samsung, is the second most circulated newspaper, and has a conservative editorial stance. The JoongAng group chaebol (재벌) owns affiliates in many industries, such as the movie chain Megabox. The president of JoongAng is Hong Seok-hyun, who, for context, is also the son of a former minister of justice and the brother-in-law of the chairman of Samsung Group. DongA Ilbo, one of the oldest Korean newspapers, started in 1920 and has a circulation of over 1.2 million and a right-wing conservative political alignment.

As the major circulating newspapers are ideologically similar, citizens can turn to smaller newspapers with varied political inclination. Their circulation is much lower,

with 200,000 daily circulation for Hankook Ilbo or Hankyoreh newspapers. With the emergence of the internet, citizens can look for alternatives to traditional media in the New Media. Naver News is one of these alternatives. The leading search engine in South Korea is Naver. While it is primarily a search engine, it also offers a portal site with a news distribution service, Naver News. Finally, new platforms, such as Twitter and Facebook, are also used for information diffusion, both as social network and news media.

In order to understand the relation between the voice of the elite through mass media and the alternative new media, the topics emerging over time in the online immigration discourse are extracted through topic modeling. The experience here proposes a comparison between the migrant discourse in Mass Media versus Twitter, as representations of the voices of the elite versus the voices of the public. The objective is to find the capitalist intentions at the center of hate comments. Rather than studying them to recognize them and monitor them, it is necessary to understand how and why this hate is produced, in order to build a defensive strategy. The starting theory is that virulent violent hate migrants tweets are born out of propaganda in the mass media, which actively propagates divisive ideas through a variety of persuasive arguments aiming to divide workers and place migrants as scapegoats for the consequences of the exploitation by the ruling class on the lives of the working class members.

In this experience, a class-based perspective is taken to study the strategies of the mass media and new media in the reproduction of class relations.

Thus, we define Mass media as the traditional forms of information dissemination, such as newspapers, which have historically been controlled by the elite, and serve as tools for shaping public opinion and promoting the interests of the ruling class. This Mass media will be represented by publications from the major news outlets Chosun Ilbo,

Joongang Ilbo and Donga Ilbo. And we refer to New media as the digital platforms that have emerged in the digital age. New media may appear more democratic and accessible, allowing for greater participation and diversity of voices, it is still embedded within the capitalist framework. This New Media will be represented by publications shared on the Naver News platform. While new media platforms provide space for alternative narratives, they are ultimately shaped by the same capitalist dynamics of accumulation and exploitation. Therefore, both mass media and new media are responsible for the reproduction of class relations and serve as instruments of ideological domination and shaping of the public opinion. Finally, this public opinion will be represented by a corpus of Tweets. Twitter can be considered both a form of new media and a platform for public sentiment. As a space where users can express their opinions, engage in discussions, and participate in public discourse, Twitter combines the characteristics of new media and a platform for public sentiment. Through the discourse analysis of distinct corpora representing the mass media, the new media, and the public opinion, the roles of mass media and new media on the reproduction of class relations in capitalism is quantitatively studied.

Purpose Statement

Three hypotheses are being studied in this quantitative study. First, the false consciousness theory. Mass media plays a role in shaping public opinion and reinforcing a false consciousness regarding migration. It frames migrants as burdens on the economy, criminals, or cultural threats. This false consciousness prevents the public from recognizing the global economic inequality and imperialism at the root of migration. Through the discourse analysis of distinct corpora representing the mass media, the new media, and the public opinion, the roles of media in the reproduction of class relations in the capitalist system is quantitatively studied. Secondly, the divisive

narrative theory. The media perpetuates a divisive narrative that portrays migrants as a threat to the native population in order to divert attention from the capitalist exploitation and redirect public anger towards vulnerable migrant communities. This narrative fueling xenophobia reinforces divisions among the working class to prevent union and collective action against the capitalist system. Thirdly, the control of the media. The concentration of media ownership limits the diversity of voices and perspectives on migration, which allows the ruling class to shape the dominant narrative and control the discourse surrounding migration. Both mass media and new media are responsible for the reproduction of class relations and serve as instruments of ideological domination and shaping of the public opinion. Finally, the challenge of mainstream narratives. Overcoming the passiveness of the public by challenging the dominant narrative is possible through promoting media plurality and alternative viewpoints. Shared class, shared social identities, shared experiences as migrants can be starting points to promote solidarity among different groups of the working class and confront the root causes of exploitation and inequality in the capitalist system.

III. METHODOLOGY

Data collection

Public Opinion - Tweets corpus

Scraped Tweets, n = 3,120,297	
Dataset Period	Scraped tweets
2009-12-01 to 2010-12-31	114,134
2011-01-01 to 2011-12-31	200,723
2012-01-01 to 2012-12-31	288,758
2013-01-01 to 2013-12-31	231,090
2014-01-01 to 2014-12-31	200,294
2015-01-01 to 2015-12-31	200,596
2016-01-01 to 2016-12-31	235,687
2017-01-01 to 2017-12-31	233,680
2018-01-01 to 2018-12-31	280,913
2019-01-01 to 2019-12-31	247,085
2020-01-01 to 2020-12-31	291,644
2021-01-01 to 2021-12-31	264,517
2022-01-01 to 2022-11-10	316,970
Total before manually removing 101,434 duplicates	3,221,731

Table 1. Public Opinion Corpus - Tweets from 2009 to 2022

A corpus of tweets is used to represent the public debate on migration during the 2009-2022 period. The Tweet data of migration related Korean tweets are collected using a public Twitter scraper, snsrape, licensed under the GNU General Public

License v3.0. The scraped tweets and their publishing date are then cleaned from links and stopwords, and tokenized using Mecab, resulting in 3 120 297 Korean tweets that mention irregular immigrants, refugees, illegal immigrants, migrant workers, employment permit system, visa, migrants, immigrants, foreigners, illegal aliens, undocumented migrants, foreign workers. (비정규 이민자 , 난민 ,불법 이민자 ,이주노동자 ,고용허가제 , 비자 , 이주자 ,이주민 ,이민자, 외국인 ,불법체류자 ,미등록이주민 ,외국인노동자 ,이주노동자).

To refine the data cleaning and minimize grammar particles in the results, only words tagged as nouns by Mecab are kept for topic modeling.

MeCab (2000) is a widely used tokenizer and morphological analyzer in the Korean language. It performs text segmentation and split Korean sentences into individual words, considering linguistic features and grammar.

Mass Media - News articles corpus

Corpus by Media outlet			
Queries = 난민, 이민자, 이주민, 결혼이민자, 불법체류자, 이주여성, 외국인, 외국인노동자, 미등록이주민, 이주노동자)			
Source	Chosun Ilbo	Joongang Ilbo	Donga Ilbo
Articles scraped	4,678	6,437	3,445
2023	4,229		
2022	2,909		
2021	1,166		
2020	878		
2019	883		
2018	874		

2017	541
2016	539
2015	507
2014	334
2013	358
2012	339
2011	345
2010	344
2009	314
Total	14,560

Table 2. Mass Media Corpus - News articles corpus

A second corpus of news articles from the local daily newspapers with the biggest daily circulation, Chosun Ilbo, Joongang Ilbo and Donga Ilbo is used to represent the local mass media as the voice of the elite. The articles were accessed by building a scraper using selenium and webchromedriver to search for 14 560 articles (Chosun Ilbo, n= 4,678, Joongang Ilbo, n = 6,437, Donga Ilbo, n = 3,445) that mention refugees, immigrants, marriage immigrants, illegal immigrants, migrant women, foreigners, foreign workers, undocumented immigrants, and migrant workers (난민, 이민자, 이주민, 결혼이민자, 불법체류자, 이주여성, 외국인, 외국인노동자, 미등록이주민, 이주노동자). The full text and date of each article were downloaded, and tokenized using Mecab, with an added step of data cleaning preserving only words tagged as nouns for topic modeling. As the corpus of news articles is smaller than the corpus of tweets, the minimum number of documents to make a topic set to 35 is the model trained on tweets is not set here. The articles were scrapped over a period of 14 years, from 2009 to 2023.

New Media - Descriptions of Naver news articles corpus

Corpus Naver News		
Most recent 1000 descriptions of articles shared on the Naver News platform		
Queries = 난민, 이민자, 이주민, 결혼이민자, 불법체류자, 이주여성, 외국인, 외국인노동자, 미등록이주민, 이주노동자		
Year	2022	2023
Total	10,338	

Table 3. New Media Corpus - Descriptions of Naver news articles corpus

A third corpus of descriptions of news articles from Naver is used to represent the New Media. The Naver data were accessed using the official Naver News API and used to search for 10,000 articles that mention refugees, immigrants, marriage immigrants, illegal immigrants, migrant women, foreigners, foreign workers, undocumented immigrants, migrant workers (난민, 이민자, 이주민, 결혼이민자, 불법체류자, 이주여성, 외국인, 외국인노동자, 미등록이주민, 이주노동자). Only the short description of each article and publishing date were downloaded, as the official API limits the number of articles scraped by query to 1100 titles and the harvest to the description of the articles rather than the full text. The corpus is then cleaned with natural language processing by parsing it, tokenizing it, using the Korean morphology analyzer Mecab.

Naver trends

Naver Trends is a service provided by Naver, one of the largest search engines in South Korea. It offers insights into the most popular search queries and trends among Naver users. When users perform searches in the Naver's platforms, their actions and queries are recorded and stored. Naver Trends tracks the keywords and phrases people search for to obtain search trends. Using this service, the popularity of migrant related queries, such as “Refugee”, “Immigrant”, “Marriage migrant”, etc. is investigated over time to identify popular topics and monitor the public sentiment towards immigrants.

Experimental Design of Topic Modeling

Topic modeling algorithms are statistical models used to discover hidden semantic structures, and infer and generate coherent topics. Improving the coherence of the topics, as well as the contextual information are challenges faced by scholars in Natural Language Processing. Popular models, such as Latent Dirichlet Allocation (LDA) (Blei et al., 2003), consider each document as bag-of-words, ignoring word order, thus losing contextual information. Newer models address this issue and generate contextual word (and sentence) vector representations, such as BERT (Bidirectional Encoder Representations from Transformers) (Devlin et al., 2018).

1. LDA: bag of words model

The popular LDA algorithm for topic modeling, Latent Dirichlet Allocation (Blei et al. 2003), is a Bayesian hierarchical probabilistic generative model that uses a

document as a bag-of-words to represent word meaning, thereby losing semantic relationships between words and contextual information from word order in sentences. Considering the dataset used here, a corpus of tweets scraped over a decade, LDA's critiques stand out. LDA relies on the context of neighboring words within a document to identify topics. However, due to the limited text length of tweets, the contextual information available to LDA is significantly reduced, leading to less reliable topic assignments. Hajjem and Latiri (2017) finds that LDA is not ideal for short texts, which is the data used here. We thus stray away from the LDA model, towards a more recent model, BERT.

2. BERTopic: contextual word embeddings model

To overcome this limitation in contextual understanding, a new approach, using word embeddings as the basis for topic modeling, appeared. It aims to generate contextual word (and sentence) vector representations. For example, the Top2Vec model (Angelov, 2020) learns based on the word vectors from the Doc2Vec's embeddings (Le and Mikolov, 2014).

One model, BERT (Bidirectional Encoder Representations from Transformers)(Devlin et al., 2018) is selected for its successful contextual word vector representation. BERT is based on the encoder component of the Transformer model (Vaswani et al 2017), which reads the text input, and uses it to then generate a language model. In addition, while previous directional models read the text input only left to right or right to left, BERT is bidirectionally trained. This allows the model to learn the context of a word based on all of its surroundings (left and right of the word). This contextualized understanding of word meaning, an important characteristic when analyzing short texts like tweets. Improving this contextual understanding further, an innovative technique,

Masked LM (MLM) and Next Sentence Prediction (NSP) is used to train the model, which is trained to learn how to predict the masked words and masked paired sentences. To generate topic representations, first, the corpus is converted into document and word embeddings, resulting in a map of words whose meaning is represented by numerical vector spaces, preserving the semantic meaning and contextual information. Secondly, the documents are clustered into clustered embeddings. Thirdly, one topic is given to each cluster, and topic representations are extracted by finding the words close to a cluster's centroid. However, the topic representations generated from those methods are extracted from individual documents: the assumption is that words close to the cluster's centroid are the most representative of that cluster. But this is not the case for every individual document, and may result in incoherent topic representations.

A new technique, BERTopic: Neural Topic Modeling with a Class-Based TF-IDF Procedure (Grootendorst 2022) , overcomes this obstacle by aggregating all the documents for each topic, to then extract the meaningful words from the entire topic. To distinguish topics from one another based on those cluster words, the class-based TF-IDF (Term Frequency - Inverse Document Frequency) is carried out. This formula is an adaptation of the TF-IDF formula, which measures the importance of a word to a document. To obtain the importance of a word to a topic instead, the c-TF-IDF formula is used. The formula is as follows.

$$class_tfidf(term, class, corpus) = tf(term, class) * idf(term, corpus)$$

There, *term* is the word for which the weight is calculated, *class_tfidf* represents the weight of this particular term in a specific class, *class* is the class or topic to which the term belongs, and *corpus* is the entire collection of documents (here tweets or news articles) being analyzed. The Term Frequency $tf(term, class)$ calculates the frequency of the term within the documents belonging to a specific class. It is simply calculated using the count of occurrences of the term in the class. Then, Inverse Document Frequency

$idf(term, corpus)$ measures the informativeness of a term by considering its distribution across the entire corpus. It is calculated by dividing the total number of documents in the corpus by the number of documents containing the term, and then taking the logarithm of the result. By combining both TF and IDF, class-based TF-IDF provides a measure of term importance that considers both the local term frequency within a class and the global term distribution across the corpus. This gives a more accurate and meaningful representation of the importance of terms within specific classes or topics, resulting in an effective topic modeling with BERTopic.

Furthermore, to explore the potential hierarchical structure of the topics from the matrix created, hierarchical clustering visualization is performed. The similarity between two c-TF-IDF topics is determined by their distance, where a smaller distance indicates a higher level of similarity. In BERTopic, the merging of topics is achieved through the common linkage method “ward” (Ward J. H., 1963), or “Ward's minimum variance method”. The formula calculates the increase in variance that would occur if two clusters were combined and compares it to the increase in variance for other potential merges. It selects the pair of clusters with the smallest increase in variance as the most similar.

3. BERTopic variations: dynamic and guided models

In order to shorten the long process of text classification, the pretrained model, BERTopic, is thus used for transfer learning. The BERTopic model (Grootendorst M., 2022)

(BERTopic(embedding_model="sentence-transformers/xlm-r-100langs-bert-base-nli-sts-b-mean-tokens")) is already pre trained on voluminous datasets, and multilingual.

First, the tokenizer of the multilingual BERTopic model is changed to the Korean tokenizer Mecab, for a better analysis of the Korean language, and the model is fine

tuned with the cleaned, dated, Korean corpus. Then, the output is used as features for the downstream task topic modeling. The minimum topic size is set to 35, and the number of topics to extract is set to 35. Variations of this model include dynamic topic modeling and seeded modeling.

In order to obtain the most coherent topics, a seeded model is performed. Seeded topic modeling is realized by giving the model a list of seed topics with keyword attributes. These guide the topic model to converge towards the topics we want to examine in the documents. However, if those topics do not exist, they will not be modeled.

Furthermore, dynamic topic modeling is realized using the publishing dates of the tweets, resulting in the frequency of each topic calculated over time, in a dynamic analysis. As the corpus includes tweets more than ten years apart, the relevance of some topics, the apparition of new topics, the disappearance of others, provides crucial dimensional information for the study of the evolution of migrant perception and the influence of media coverage overtime.

Methodological Frames: from non guided to guided model : Capitalism and Migration

As a quantitative method of discourse analysis, topic models offer voluminous statistical textual information, which can be used to study the structures of text in their historical and sociopolitical context. Therefore, by placing the corpus in its sociopolitical context, through a study over time and a comparison between the voice of the elites and the voice of the public, we can uncover the relation between the assumptions and values towards migrants reflected in the online discourse via topic modeling. Relating the evolution of the public opinion on migration to the local sociopolitical context as part of a social structure, and comparing the formation of this opinion to the media coverage of migrants, we can analyze the root of the hate on migrants. The social structure from which these perceptions are born is here

determined as class struggle and exploitation of the working class by alienation of foreign workers through negative media coverage. In order to integrate this social structure into the language model, to combine critical discourse analysis and structural topic modeling, we design a frame of study of the migration topics, which is fed to the model as a seeded topic list. This manual guiding of topics departs from a typical non guided topic modeling, and gives the model a deliberate perspective for a theoretically contextualized text analysis.

Related Work

Pavlova, A. and Berkers, P. (2022) study the public perception of a divisive concept through a frame analysis based on topic modeling, using LDA clustering (Gallagher et al., 2017). They manually set a number of frames, to which are attributed top words. Those set topics guide the Latent Dirichlet Allocation clustering, and unique frames of discourse for text analysis are obtained. Egger R, Yu J. (2022) finds BERTopic to have a better performance in the analysis of short-text data such as tweets, as LDA overlooks multiple topics coexisting in a document (Jaradat and Matskin, 2019). This approach facilitated the identification of unique frames for discourse analysis. Building on this methodology, we adopt a similar approach by constructing a theoretical frame, a seed topic list, to extract balanced and insightful topics. Using the BERTopic (Grootendorst M., 2022) multilingual model for topic modeling, with the MeCab tokenizer (Kudo, T., 2005) for the Korean language, and an added step of dynamic topic modeling, the development over time of the conceptual frames of migration sentiment in South Korea is investigated.

In a related study, Nozza, Bianchi, Lauscher, and Hovy (2022) focused on investigating language use towards specific social identities, particularly within the LGBTQIA+ community. They trained a model to complete sentences using LGBTQIA+ related templates and measured harmfulness scores, revealing identity-based attacks. In our work, we use another potential of the BERT model to analyze the language employed in relation to specific social identities, by studying the semantic distance between topics whose subjects are also groups of migrants defined by their social identities.

A theoretical frame is built in order to obtain the most balanced, insightful topics. See the Annex for supplementary information on the seed topic list.

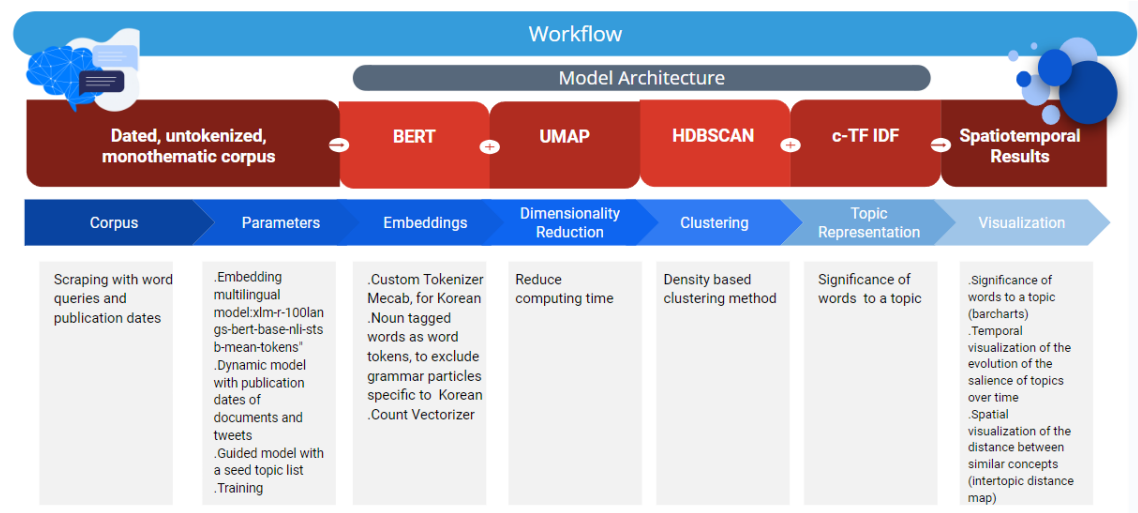


Figure 1. Workflow of the experimental design of Topic Modeling

Salience of Search Trends

Naver’s search trends show frequent search terms in Naver’s search engine. It can be used for comparative keyword research to discover event-triggered spikes in keyword search volume. With 42 millions users, Naver is the most popular search engine in South Korea. Using the keyword research tool Naver Data Lab, we obtain the frequency over time of keywords searched in Naver. Using Naver Trends feature, we investigate the salience of migrant related queries over time to find correlation between

exceptional events and sparks in national interest in migrant related topics. In order to place the importance of the migration debate in the overall public debate in South Korea, the frequency of migrant related searches in the primary Korean search engine Naver (1999) is studied overtime using the public Naver API (2016). The development of the salience of migrant related issues in times of election, economical crisis, global refugee crisis, shows how immigration topics are placed in and out of the spotlight in mass media to shift public worries over governmental policies towards migrants as scapegoats.

IV. RESULTS

Naver Trends

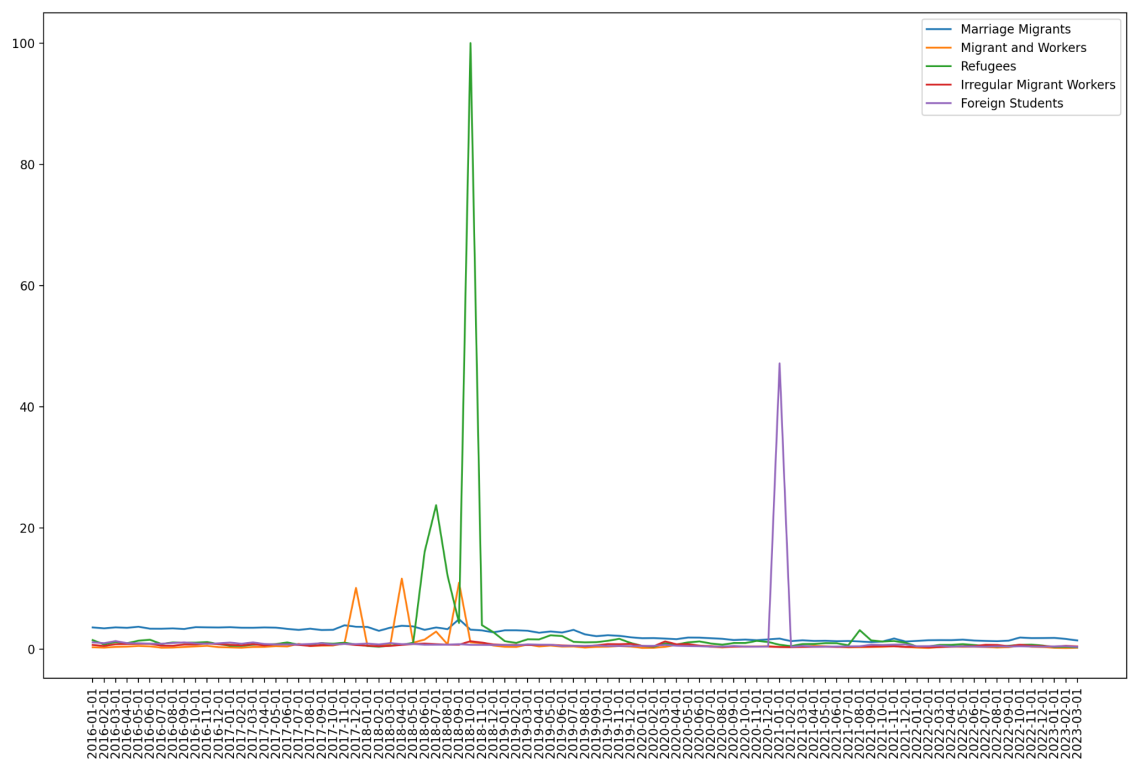


Figure 2. Naver searches for “Marriage migrants”, “Migrants and workers”, “Refugees” “Irregular Migrants”, and “Foreign Students” of users (2016/01/01 to 2023/03/01)

The peaks in salience shows a strong impact of the salience of media coverage to the

formation of public opinion. Interest in migrant related issues is versatile and momentary. Migrant related opinions, values, are not fixed in time.

The monitoring of social data extracted from Naver Trends between 2016 and 2023 shows the dynamics of migration awareness, specifically during the global COVID-19 pandemic, where worldwide migrant communities often became targets of scapegoating and blamed for the spread of the virus. The peaks of intensity of migration awareness, here defined as the relative search interest activities using migrant related search terms in Naver, is shown to be related to potential triggers and an accrued news coverage.

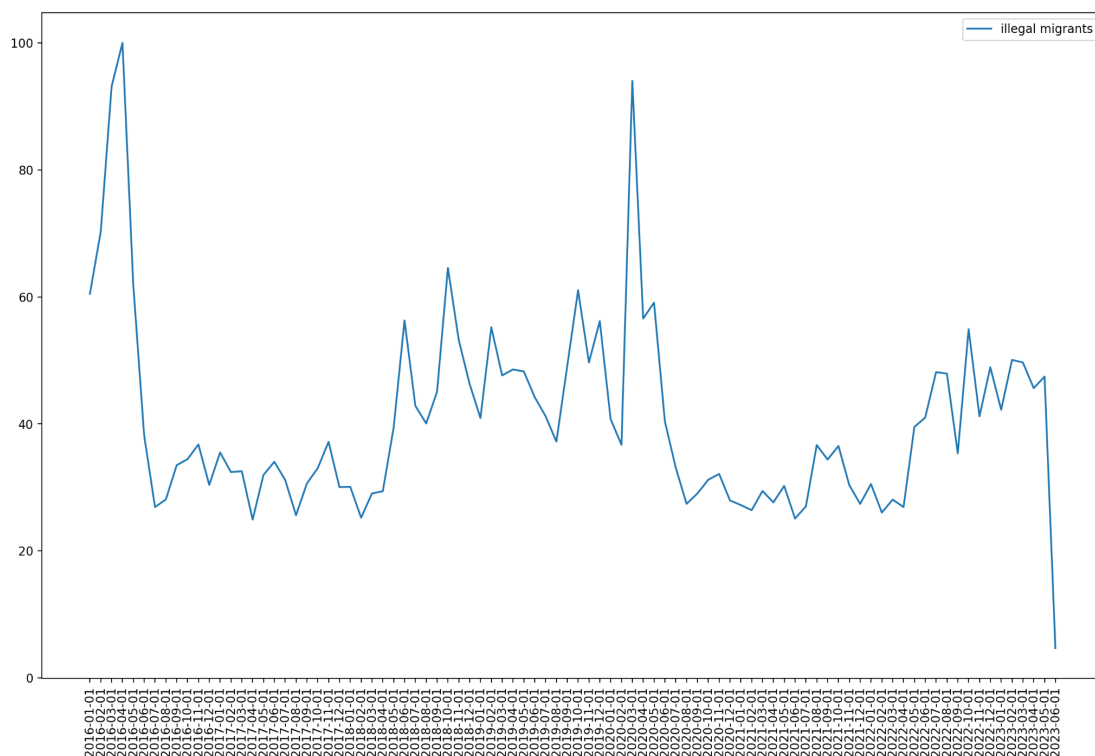


Figure 3. Searches for “Illegal Migrant “ of Naver users (2016/01/01 to 2023/06/01, with the search terms: "불법체류", "불법체류자", "불법체류 외국인")

The Naver Trends data show a peak in “illegal migration” interest occurring in March 2016, when the the South Korean government launched crackdowns with an aim “to

repatriate about 70,000” undocumented migrant workers (Buhaykorea, 2016.03.22, ” Crackdown on illegal immigrants in Korea”), in April 2020, when measures to enforce immigration laws were implemented through the introduction of stricter immigration and quarantine measures as number of cases increased, in Mai 2020, when the Ministry of Health inspected construction sites to “strengthen quarantine efforts to prevent infections by undocumented residents and foreign workers from abroad” (ROK Ministry of Health and Welfare, 2020.05.31, “Timeline South Korea’s response covid 19”, csis.org), and in November 2022, when the Ministry of Justice launched numerous crackdowns resulting in the expulsion of 13,000 migrant workers (The Korea Herald, 2023.05.03, “13,000 illegal immigrants leave S. Korea through crackdown over 2 months”, Yonhap).

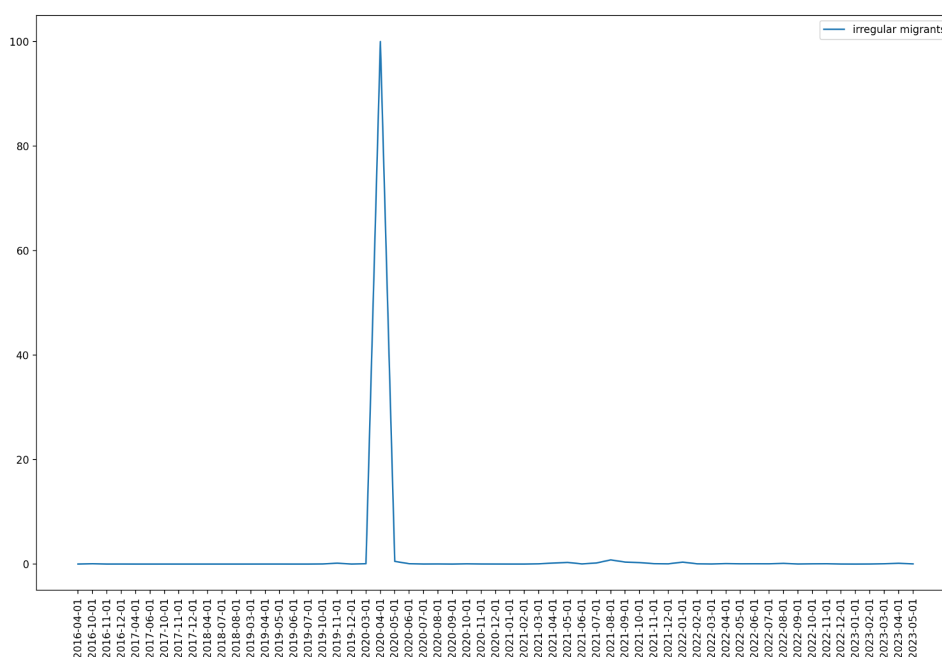


Figure 4. Searches for “Irregular Migrants “ of Naver users (2016/01/01 to 2023/06/01, with search terms: "미등록 이민자", "미등록 이주민", "미등록 외국인")

The Naver Trends data show the first peak of interest in irregular migrants in April 2020, when Covid cases surged after the first easing of social distancing policies and immigrants were blamed for the spread of the virus.

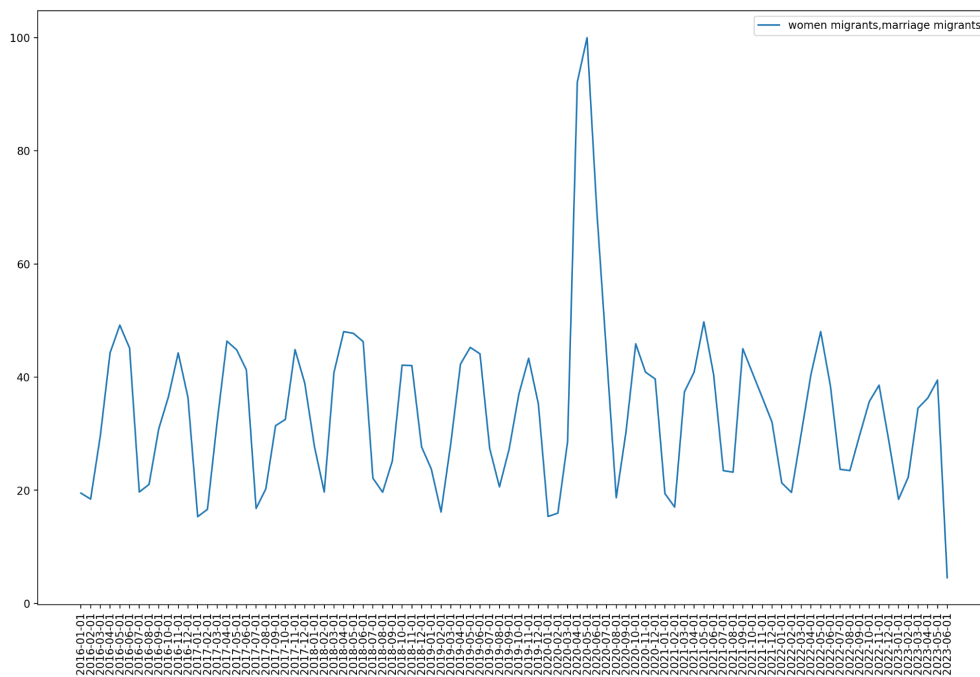


Figure 5. Searches for “Women Migrants” and “Marriage Migrants of Naver users (2016/01/01 to 2023/06/01, with search terms: "여성 이민자", "여성 이주민", "여성 외국인", "여성결혼이민자", "결혼이민자", "결혼이민여성")

The other peak in public interest in women migrants and marriage migrants in April 2020 also follows the accrued news coverage of immigrants’ presence in South Korea during the surge in Covid cases and the reimplementation of stricter social distancing, notably restriction of business activities despite strong opposition from trade unions. Naver Trends data shows that immigrants are then in the center of public interest, and blamed for the spread of the virus and the resulting business suspension policies greatly affecting employees of entertainment establishments. In April 2020, The Ministry of Health and Welfare implemented a measure of imprisonment up to one year for foreign migrants not complying with the quarantine measures (ROK Ministry of Health and

Welfare). Whilst clusters of cases reappeared in the Spring of 2020 after the easing of social distancing policies, an early cluster from Mai 2020 was highly mediatized. As it took place in the gay and international district Itaewon, blame for the spread of the virus was put on both the LGBTQ+ community and migrant community, and it was turned into a high profile incident. As tension between the government and workers struggling due to business suspension orders were rising, this publicization of one cluster involving the two communities pushed the negative public sentiment over to the oppressed groups. This cluster will later be referred to as the “Itaewon outbreak”, and when business suspension orders would be implemented due to the rise of cases, this specific cluster would be named, and followed by restrictive measures exclusively applicable to foreigners. For example, on the 10th of May 2020, gatherings in nightlife establishment are banned for two weeks (Source: ROK Ministry of Health and Welfare), on the 11th of May, the penalty for breaking self-quarantine is increased a sixfold for foreigners exclusively (Yonha News Agency), and on the 11th of May, the reopening of schools is delayed by a week due to the “Itaewon outbreak” (Source: ROK Ministry of Education). During the same period, a bigger cluster of cases in the Coupang Center, a major South Korean e-commerce company, is reported on the 29th of May, but attention is diverted to immigrants, as the Ministry of Health and Welfare launches highly publicized inspections of construction sites and businesses hiring foreign workers the 31st of May. In May 2020, Naver Trends data show unprecedented peaks of interest in migrant related terms. This accrued interest in migration and implementation of restrictive migration measures is a result of a media narrative scapegoating migrants.

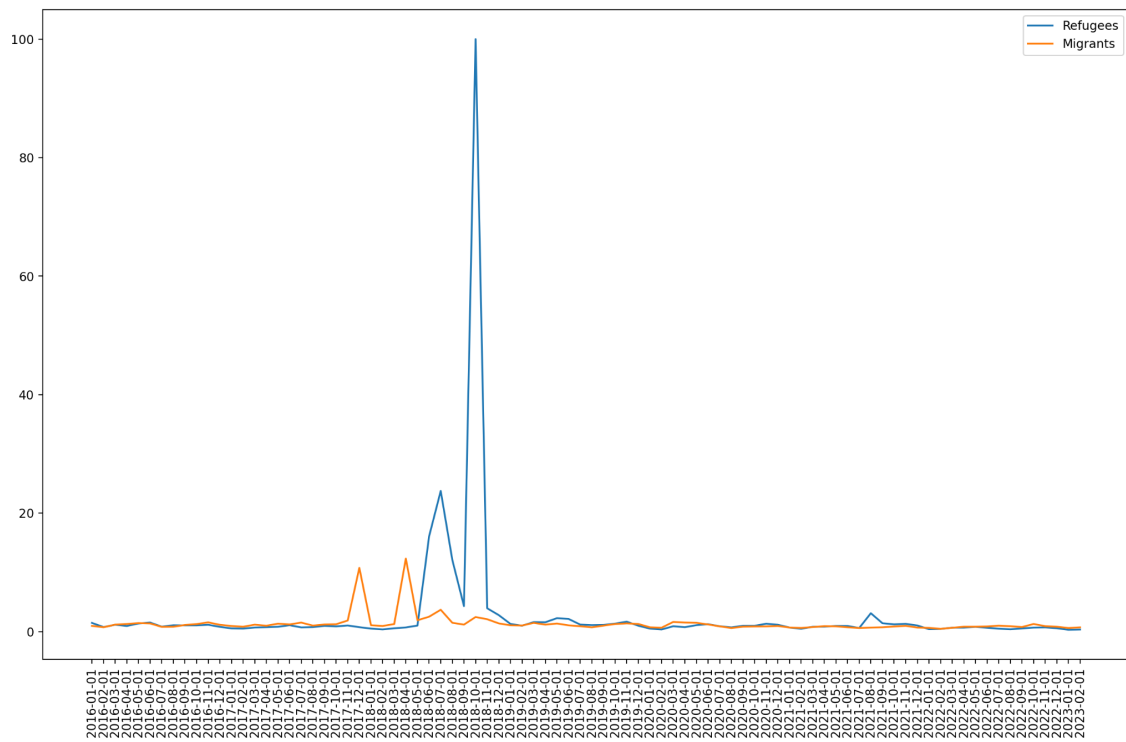


Figure 6. Naver searches for “Refugees” and “Migrants “ of users (2016/01/01 to 2023/03/01)

A peak in relative interest in refugees in 2018 followed the arrival of asylum seekers in Jeju-do, which was heavily covered in the media, portraying the refugees as dangerous. The public opinion of refugees worsened to the point of the organization of protests to oppose the acceptance of the asylum seekers.

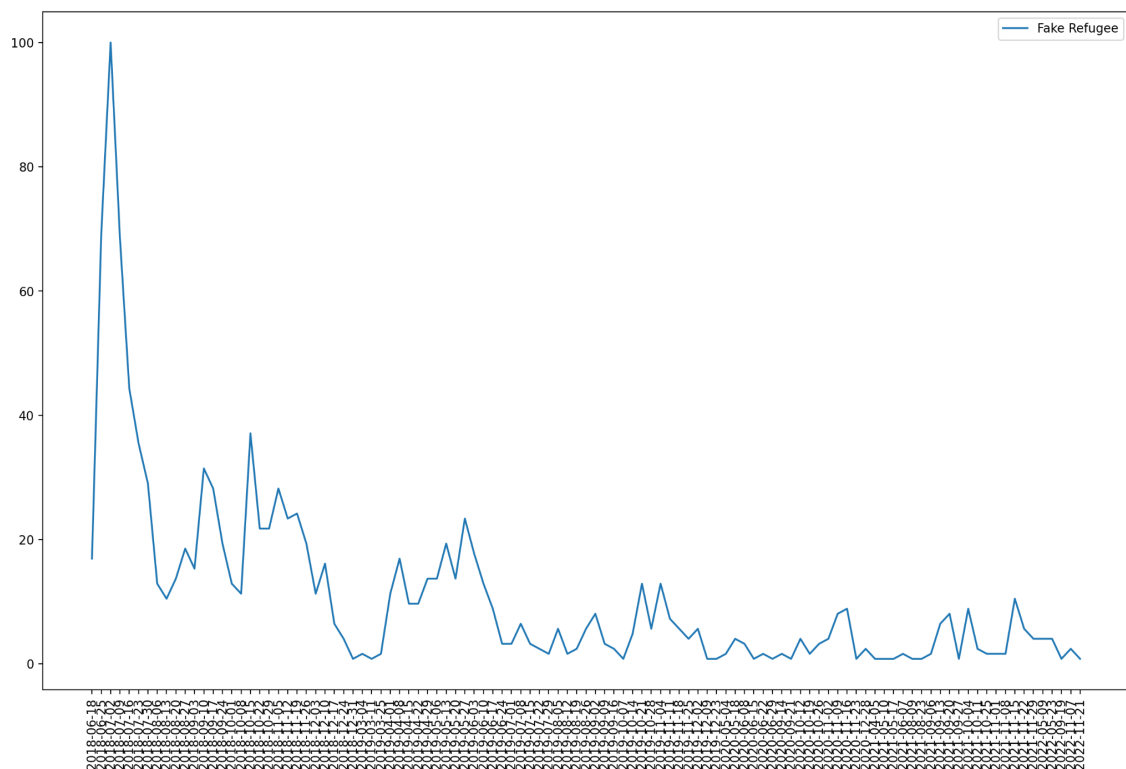


Figure 7. Naver searches for “Fake refugee” (가짜) of users (2016/01/01 to 2023/04/01)

The appearance of a new term “fake refugee” illustrates this xenophobic campaign from the media. The term appeared in 2018, and was used to separate “real” and “fake” refugees, putting all refugees in South Korean territory into the “fake” class, which could be used as a justification for the 1% recognition rate of refugees. In 2014, the ongoing Yemeni civil war started. Yemen was then part of the list of countries who did not need a visa to enter Jeju. Between 2016 and 2018, around 552 Yemeni refugees arrived on Jeju Island in South Korea. In June 2018, South Korea excluded Yemen from the list of visa waiver countries. Immigration also restricted Yemeni refugees from migrating to other regions of South Korea. In July 2018, protests opposing the acceptance of Yemeni refugees took place. Refugees were denounced as “fake”, migrating to compete in the job market rather than to escape the civil war. A new

divisive concept of refugee, migrating with either “humanitarian” reasons, or “economic” reasons, is created. In 2019, refugee recognition rate drops under 1%.

This is an example of the powerful agenda setting role of mass media in the pushing of governmental policies. Before 2018, few refugees arrived in South Korea, and they were not included in the center of the migration debate. As asylum seekers arrived, the elite needed to justify the exclusionary policies, and through mass media, could build the discourse around them, here by creating a new concept, a new frame for refugees, divided in a hierarchy of fake and real refugees.

Media framing - Chosun Ilbo, Joongang Ilbo and Donga Ilbo - 2009-2023

The topic modeling generated 30 topics related to the portrayal of migrants in distinct categories, with a prevailing negative frame of criminalization of migrants, as well as a victimization frame of migrants. The topics were grouped into main themes through critical analysis, excluding the Topics -1 and 0, which contained miscellaneous topics grouping unclassified texts together. Tables containing the details of each topic are found in the Annex.



Figure 8. Barcharts of the Topic word scores in the Mass Media corpus harvested between 2009 and 2023

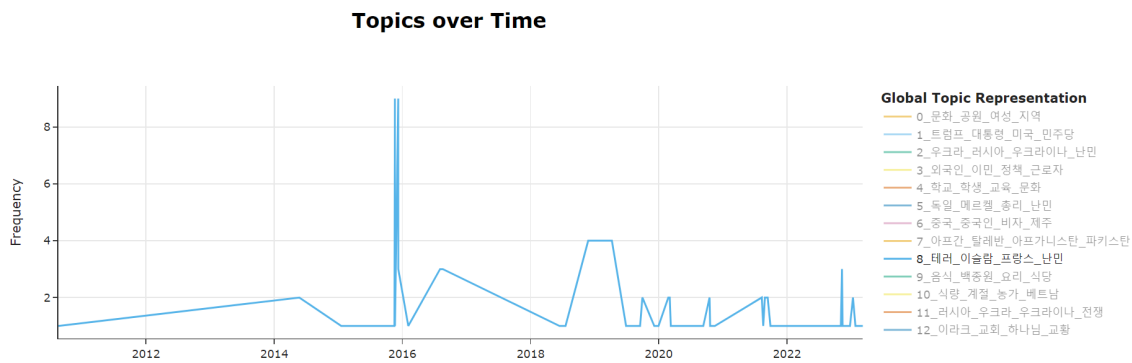


Figure 9. Frequency over time of the Topic 8 from the Mass Media corpus harvested between 2009 and 2023

The corpus of news articles harvested from three major newspapers, Chosun Ilbo, JoongAng Ilbo and DongA Ilbo between 2009 and 2024 shows distinct noteworthy frames. A first theme (n = 304 articles) shows a focus on American migration, especially on Western conservative views on migration, which are reproduced with representative keywords of the topic being: Trump, President, America, Democratic, Party, Republican, Candidate, Election, Biden, House, Congressman, Senate, illegal, immigration, Obama, government, Mexico, administration, Exile, Minister. The western concept of borders is connected to capitalism and imperialism. Sonja Krieger (2019) explains that the function of borders is to separate workers between regular and irregular workers, a division that creates a vulnerable population of workers who can be more easily exploited. This framing is visible here with keywords such as “illegal”, “Mexico”, “exile”. Topic 5 (n = 197 articles) similarly focuses on Western conservative immigration policies, namely Germany’s, with the following keywords: Germany, Merkel, Prime Minister, Refugee, Russia, Europe, East Germany, Poland, Lawyers, Policy, Government, President, West Germany. The focus is put on the ruling class’s narrative, with “Government”, “Minister”, “President”.

The second topic (n = 244 articles) focuses on the war in Ukraine, but significantly highlights military attacks, with the following keywords: Ukraine, Russia, Refugees, War, Finland, Poland, Invasion, NATO, Border. Topic 11 (n= 73 articles) similarly centers around the war in Ukraine, with the following keywords: Russia, Ukraine, War, Putin, Attack, President, Invasion, Military, USA, Drone, Economy, USSR, Missile, Russian Army, Vladimir. This focus towards military attacks, and noteworthy lack of coverage of the people and refugees involved in the conflict, seems to call for military supplies. For context, during this war, refugees from the war were indefinitely detained in the Incheon airport, with no beds or showers, as they were waiting for their refugee appeal to be accepted. (TheKoreaTimes)

The third most predominant topic (topic 3, n = 210 articles) presents a criminalization framework of foreign workers, with the following keywords: Foreigners, Immigration, Policy, Workers, Ministry of Justice, Sojourn, Employment, Expansion, Manpower, Government, Country, Budget, Population, Visa, Immigration, Employment, Illegal, Libya. The topic describes foreign workers, but not their work conditions. Rather, “Ministry of Justice”, “illegal”, “Sojourn”, “Visa”, show a focus on their legal status. This criminalization framework is also found in topic 6 (n = 161 articles) , with the following representative keywords: China, Visa, Jeju, Taiwan, Hong Kong, Lithuania, Italy, Smuggling, Government, Foreigner, illegal stay. The strong association between migrants and crime forms a negative sentiment.

This main criminalization framework is present in all topics describing migrant workers. Topic 10 (n = 78) thus describes migrant workers, and there again, associate them with the “illegal” term. The keywords for topic 10 are: Food, Seasons, Farmers, Vietnam, Labour, Workers, Farming, Corona, Illegal Stay, Grains, Rising, Entry, Potato. The strong association of “illegal” with even the migrants providing the country with provisions of food illustrates how criminalizing migrant workers allows for them to be exploited by the government without public outrage and resistance.

A fourth theme (n = 198 articles) shows an association between migrants and reproductive labor, specifically education, with representative keywords of the topic being: School, Student, Education, Elementary, Middle School, Support. There is a clear distinct separation between the previous group of criminalized migrants, and migrants in charge of reproductive labor, with an associated responsibility of providers of family welfare. In addition, several topics describe refugees, with a strong islamophobic association with terrorism is visible. Topic 7 (n = 94 articles), which describes refugees and topic 8 (n = 87 articles), which describes terrorism, are overlapping. The keywords for topic 7 are: Afghanistan, Taliban, Pakistan, Kabul, Refugees, Islam, Humanitarianism, US Army, Reign, Escape, Government, Stay, problem. And for topic 8 are: terror, Islam, France, refugees, Middle East, forces, Muslim, Italy, Paris, Syria, Western Country, Al Qaeda, Bomb, Religion, War. This high coverage of terrorism in the local mass media promotes a fear of terrorism in South Korea. The presence of the terrorism topic (Topic 8) in a corpus of exclusively migrant related articles, and the significance of the word “refugee” in this cluster highlights the islamophobic association with migrants, specifically refugees, and terrorism. The frequency over time of the Topic 8 (Terrorism) in the mass media corpus shows how predominant it is in the media narrative on migration.

Another important framework is the victimization framework, painting women migrants as victims. Topic 21 (n = 32 articles) describes migrant women with the following keywords: Women, Prostitution, Business owner, Police, Violence, suicide, victim, assault, male, report, Husband, Crime, Incident, Business, Sexual assault, Damage, punishment. Women migrants are both painted as victims of “violence”, and as criminals, with the criminalization of sex work, with “prostitution” and “police”. This victimization narrative puts women as victims of individuals, (“husband”, “male”), rather than systemic exploitation. Combined with the criminalization narrative, women migrants are effectively distanced from righteous

claims to citizenship. A prejudiced association with drugs is also found in top 29 (m = 12 articles), grouping migrants with the following keywords: Drugs, Thailand, Possession, cultivation, firearms, production, Southeast Asia, crime, Myanmar, Suspicion, Criminal, Regulation.

The Mass Media narrative shows three primordial characteristics. First, migrants are separated into specific, and distanced groups, based on their social identities (gender, legal status, etc). Then, a criminalization framework is applied (in particular to foreign workers), and, or a victimization framework (in particular to women migrants). Finally, an accrued coverage of Western conservative migration policies, namely USA and Germany's policies, passes on Western conservative views on immigration.

New Media framing - Naver News - 2022-2023

The topic modeling of the New Media corpus generated 30 topics related to the portrayal of migrants in new media.

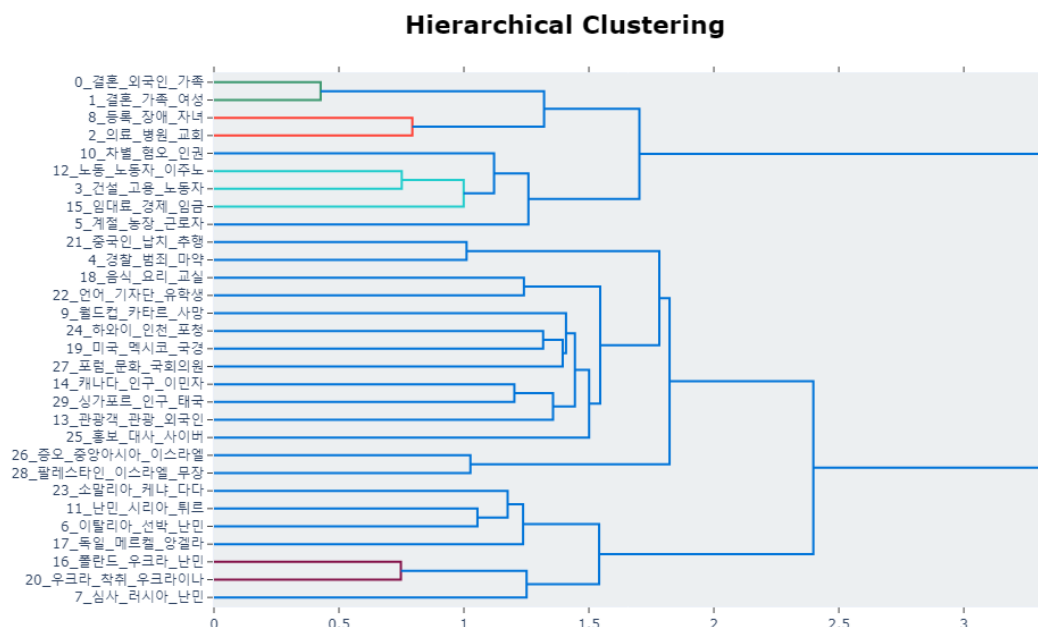


Figure 10. Hierarchical clustering of the topics in the articles harvested from Naver News in 2022-2023

The criminalization of migrants through the keyword “illegal” shows a strong association of specific subgroups of migrants with illegal status. In topic 4 (n = 302 descriptions of articles), violent police intervention is justified with the following keywords: Police, Crime, Drugs, Suspicion, illegal, assault, nationality, police station, stay, Thailand, violation, police agency, arrest, police officer, foreigner, Male, Jeju . Specifically, male migrants are covered as illegal. In contrast, women migrants are associated with “support” , in topic 1 (n = 656) , with the following keywords: Marriage, Family, Women, Support, Center, Education. This shows how both the criminalization frame and victimization frame restricts the rights to citizenship for both groups of migrants. The arbitrary separation between “bad” migrants who are “illegal” and “men”, and the “good” migrants, who require “support” and “women” all lead to the same restriction of human rights, and exploitative environment.

In topic 2 (n = 446), the association with health insurance usage is visible with keywords such as: “Health” , “Hospital “, “Refugees”.

Less salient topics however, do offer a coverage focusing on social justice and human rights. Topic 7 (n = 129) shows a high coverage of the situation of refugees waiting at the Incheon airport (keywords = Examination Russia Refugee Russians Conscript Ministry of Justice Incheon Recognition Litigation Airport Referral Court Forced Decision War Victory Korea Opponent cancel reject) . Topic 3 (n = 392) shows a coverage of migrant workers in exploitative work conditions (keywords = Construction Employment Workers Wages Foreigners Employment site accident survivors work foreign children Juno Lee Worker Constitution Hanam Factory Manufacturing Late Payment Provision). Topic 5 (n = 261) also mentions the fatal consequences of the exploitation of migrant workers (keywords = Season Farm Worker Rural Pig Foreigner Professor Farmhouse Agriculture Organic Cadaver Batch worker remark employment farmer entry manpower shortage when work). Topic 10 (n =

113) focusing on the repressive refugee application process (keywords = discrimination hate human rights regulation registration minorities society residents government halfhuman race immigrants Refugees Illegal Equality Deportation Groups Women Respect Suggestion), and topic 12 (n = 75) even shows compassion and union, not pity, with the immigrants undergoing this administrative process (keywords = labor worker Juno Lee dongja employment illegal problem field union discrimination human rights violence environment workplace regulation condition wage relocation registration construction) . However, the victimization frame, taking away agency from its subjects, is here visible in topic 8 (n = 128 articles) with an association between “disability”, “child”, and “refugees” (keywords = Registration Disability Child Child Hospital Parent medical care care children residents refugees children birth youth support problem migrant birth inoculation case) .

Public Opinion - Tweets 2022

The topic modeling of the corpus of Tweets harvested in 2022 generated 30 topics related to the perception of migrants in the public discourse on Twitter.

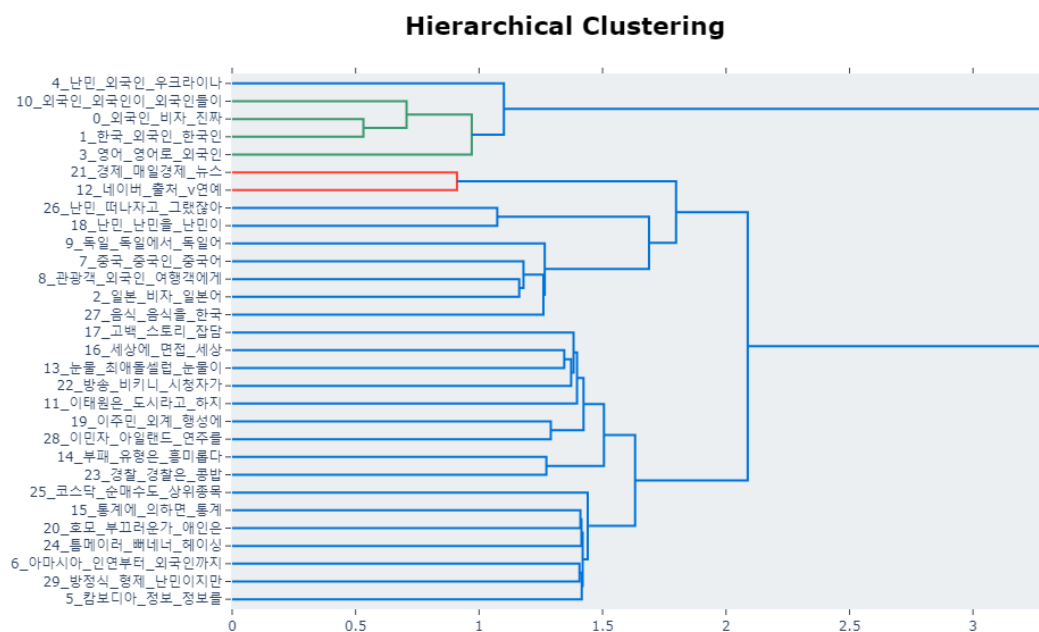


Figure 11. Hierarchical clustering of the topics in the tweets harvested in 2022

The first remarkable topic ($n = 7641$ tweets) in the public debate on migration focuses on South Korean locals migrating to Japan (keywords = Japan Visa Japanese In Japan To Japan Japan is Tourist Visa Japanese Travel Immigration). Locals are describing their own experiences as immigrants, troubles with visa processing, administration, integration in the country. This reveals a common experience as migrants between locals and immigrants. This is a primordial source of understanding. The second topic ($n = 8069$) shows a desire for communication with foreigners, as friends and class friends, not competitive workers (keywords = English In English Foreigner School Speak English I Today Foreigner Class Friend) .

The third topic ($n = 7622$), shows compassion with migrants in vulnerable situations (keywords = Refugees Foreigners Ukraine Women Marriage Immigrants Ukraine For refugees) .

However, the topic 26 ($n = 615$), with victimization keywords (keywords = Refugees Syria Ukraine United Nations Children UNICEF) , presenting a focus on children, shows how this compassion is not turned into political activism, but distracted towards pity, charity, and an individual responsibility to donate to NGOs.

Intertopic Distance Maps

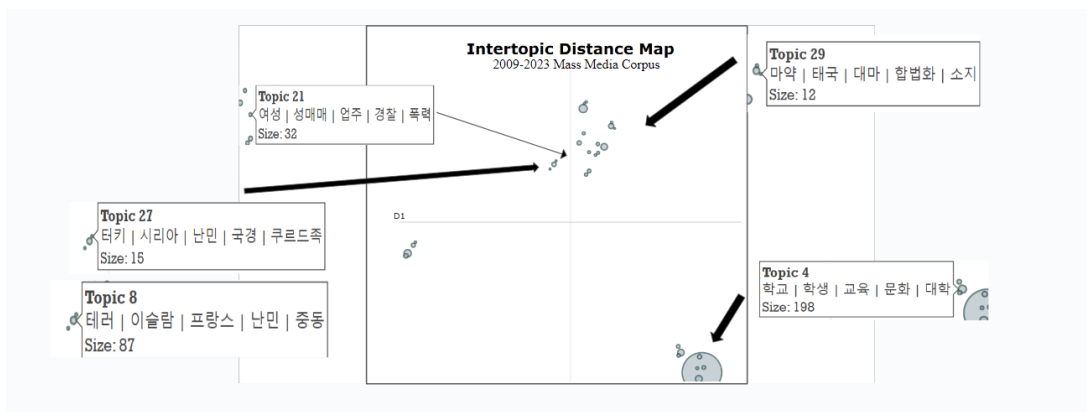


Figure 12. Intertopic Distance Map - Mass Media

The intertopic distance map from the topic model of Mass Media articles show clusters of topics distinctively distanced from each other. On the right, migrants in charge of education are vastly separated from groups of migrants on the top right, associated with drugs. On the contrary, topics of refugees and terrorism are overlapping. The intertopic map shows the associations between refugees and islamophobic tropes, and the fragmentation of the groups of migrants in the discourse.

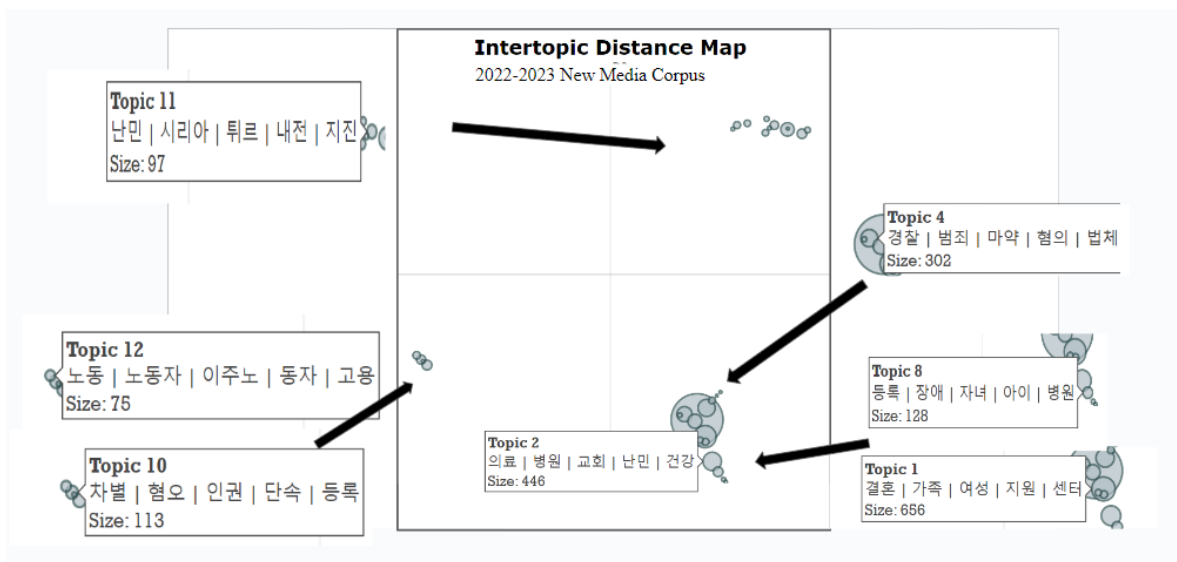


Figure 13. Intertopic Distance Map - News Media

The intertopic distance map from the topic model of New Media articles shows a strong separation between refugees (on the top right of the map) and migrant workers with the description of their exploitation (bottom left of the map). The victimization frame (with “women” and “refugees”) and the criminalization frame (with “police” and “drugs”) are however very close. The topics are overlapping: the distinction between migrants is not as clear as it was in the Mass Media corpus.

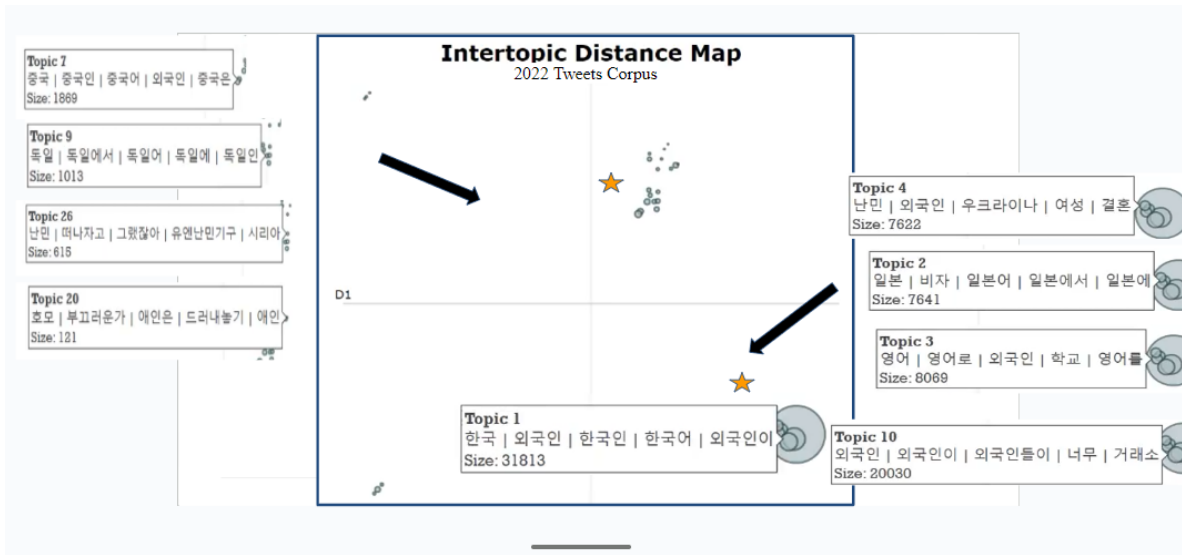


Figure 14. Intertopic Distance Map - Tweets 2022

The intertopic distance map from the topic model of 2022 Tweets show clusters with overlapping topics on the right. Twitter users talk about their shared experiences (with visa, and as learners of english, korean, japanese). It is a source of union through shared experiences in the same country. On the left, separated topics are distanced based on social identities, such as nationality and sexual orientation.

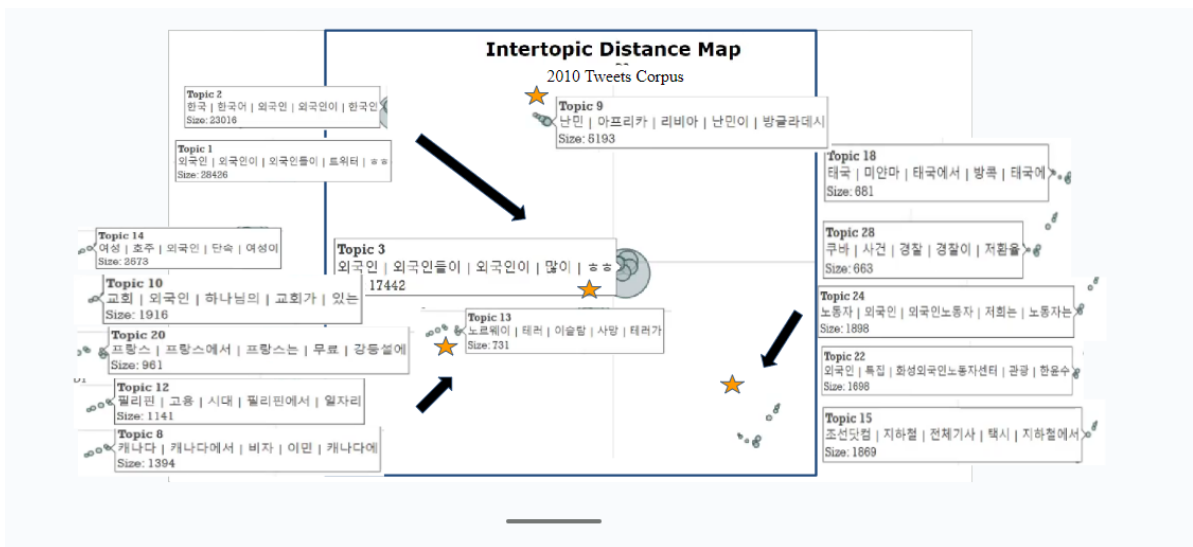


Figure 15. Intertopic Distance Map - Tweets 2010

In contrast, the intertopic distance map from the topic model of 2010 Tweets show four distinct concepts of migrant: one is foreigners in Korea (at the center of the map), and appears neutral, One (top of the map) is refugees. In 2010, global refugees were not yet accepted in S.Korea: there is not yet a division of the topics of refugees as seen in 2022. Refugees are still defined as one single group. A third concept on the left of the map shows migrants separated by their religion and nationality: there is no overlap, they are perceived as distinct groups. It is an identity-based separation. Finally, on the right of the map, there is a criminalization frame of migrants (with police, drugs). They are vastly separated, distanced, from other groups of migrants.

V. DISCUSSION

In the 2022 dated Tweets corpus, keywords defining the target concept of irregular migration showed strong association with illegality and crime, which is used to legitimize government intervention through violent police crackdowns and distract attention from reports of exploitative work conditions and violations of human rights in Immigrant Detention Centers. Keywords defining refugees showed an initial association with victim and charity in early 2010s, evolving into a growing association with sexist crimes and terrorism after the 2018 refugee crisis, replicating islamophobic speech from the West used to legitimize strong border control. In particular, a new slur targeting asylum seekers escaping war in Yemen as “fake” refugees appeared in protests, all the while the Ministry of Justice's rate of refugee status recognition dropped to 0.4% in 2019. (statistics from Statista)

In addition, as gender statistics highlighted gender inequality in South Korea's economy and politics, with the gender wage gap standing at 34.1% in 2018, Muslim refugees in particular were associated with treat keywords, and men painted as potential

sex offenders, revealing how minorities part of the same class struggle are distanced from each other and pushed into conflict in order to avoid an effective union against the ruling class. Here, this discriminatory practice uses racist ideology based on religion and ethnicity in combination with gender conflicting feminism as a tool to further separate the labor class. How to justify the systematic (99,6% of applications in 2019-2020, statistics from Statista) refusal of refugees despite the 2012 legislation of the Refugee Law as their situation in S.Korea gains popular interest? Considering the initial perception of refugees as an oppressed group, with earlier keywords defining refugees as innocent victims and associated with calls for charity, only a strong sense of alienation, conveyed by a distancing of identities such as race and religion, as well as a direct attack to the solidarity values, with the introduction of a sense of danger and fear, propagated by a persistent and aggressive media coverage and harsh political speeches, could reframe in such a short period the public perception of refugees.

However, this narrative is not met passively by locals, nor is it widely accepted in the entirety of the public discourse. On the contrary, fierce opposition calling for solidarity through reports sharing information, and protests welcoming refugees appear in the same period, visualized through refugees associated with “welcome” keywords.

Keywords defining women migrants showed strong association with marriage and victim, and no association with reproductive labor, a justification of government strategies addressing gendered violence against female presenting migrants exclusively through marriage migrants centers focusing on counseling, all the while maintaining governmental policies opening borders for free reproductive work and restricting freedom of divorce and reproductive rights. In contrast, neutral and positive migrant representation of foreign investors from rich countries showed how the aim of this divide is not to separate based on identities, but solely on belonging to the working class.

On the other hand, keywords in the Tweets corpus describing the experience of natives as migrants abroad, revealed similarities with immigrants' experiences in S.Korea, namely the struggles with building a community, language barriers and alienation resulting from restricted communication and discrimination, as well as significant administrative struggles with visa regulations. This shows how locals can relate and understand immigrants' experiences in Korea, and not simply accept mass media's representations, but refute propagated ideologies based on their own personal experiences.

New Media articles showed less discriminatory coverage than the conservative Mass Media. A division of migrants based on social identities was visible, but inclusive keywords were numerous and illustrated a news coverage critical of the government's exploitation of migrants.

The research trends shows increased interest in migrant issues, not in times of economical crisis, but during increased media coverage, as the salience of the interest in refugees varied with the accrued media coverage in 2018, with no economical consequences of the arrival of a few hundreds of people on the territory. Trends also showed the use of new concepts through language, such as "Fake Refugee" appearing for the first time in 2018.

By framing migrants as criminals or threats to social order, the media perpetuates a narrative that justifies oppressive immigration policies and reinforces divisions within the working class. This criminalization not only stigmatizes and dehumanizes migrants but also serves to distract from the structural inequalities. This violence serves to instill fear and maintain social control. The targeted detention of migrants, the criminalization

and apprehension of foreign individuals reinforce divisions within the working class along lines of nationality, perpetuating a system of exploitation that benefits capitalists.

With the charitable framework, media framing women migrants only as victims, reduces them to passive, non-political, recipients of aid. Migrant women's victimization in the media is a strategy employed to undermine the significance of their reproductive labor. Instead, their experiences are reduced to instances of personnel, individual suffering, diverting attention from the systemic factors that contribute to their exploitation. Similarly, the mass media's appeal for charity and individual donations to aid refugees abroad, while neglecting to address the issue of visa recognition, is an approach aiming to individualize and depoliticize the refugee crisis, shifting the responsibility from the structural causes to individual acts of compassion. By emphasizing charity and donations, the media perpetuates the illusion that addressing the refugee crisis is solely a matter of personal benevolence, rather than acknowledging the systemic economic and political factors that create displacement.

The mass media's strategy of categorizing migrants into separate groups, dividing them into simplistic and stereotypical roles such as women as victims, or men as violent criminals, is a deliberate tactic that perpetuates a distorted narrative. By focusing on certain subgroups of migrants, the media obscures the systemic causes of migration, such as economic exploitation, political instability, and imperialist policies. This selective portrayal creates a false dichotomy of "good" versus "bad" migrants, perpetuating divisions among the working class. It is necessary to challenge these categorizations. By focusing on the differences between migrant groups, complexification and fragmentation can divert attention away from the systemic causes of migration. The structural factors that drive migration and perpetuate global inequalities are obscured.

VI. CONCLUSION

This study examined the media's active role in the formation of public opinion on migration in South Korea. Through Critical Discourse Analysis, the fragmentation of the migrant population in the public debate was studied. Teun A. Van Dijk, (2015) defines CDA as an approach of study of the "discursive reproduction of power abuse, such as sexism, racism, and other forms of social inequality, as well as the resistance against such domination" ("Critical Discourse Analysis" , 2015). Here, both Mass Media and New Media were found to frame migrant-related issues pejoratively. The mass media's portrayal of immigrants and refugees as either threats to the economy, illegals, criminals, victims, or burdens in need of charity from individual citizens, is found to fit a hierarchical categorization from "good" to "bad" migrants, oscillating between criminalized to victimized migrants. This arbitrary division of subgroups of migrants is found to be based on their social identities, which relates to the work status of migrants and therefore the definition of their citizenship. Regular migrant workers are most rarely covered, reproductive laborers are undermined with a victimization of marriage migrants, irregular migrant workers are criminalized and blamed for their vulnerable status in exploitative workplaces and violent police crackdowns, whilst asylum seekers are either victimized or demonized according to their nationality and presence on the territory. Responsibility for the integration and wellbeing of migrants can then be shifted from the exploitative migration policies to the immigrants themselves, depending on their place in this hierarchical frame.

The justification of the exceedingly low (0.1% according to the reports of NANCEN, based on the information shared by the Ministry of Justice) recognition rate of refugees in South Korea is based on this framing of migrants as either economic migrants and abusers of the local welfare system, or humanitarian migrants and potential threats to the safety of local women. Furthermore, during the war in Ukraine, the offshore

refugees whose status resulted from a war supported by the state through military exports are covered as victims requesting individual charity rather than an anti-war movement. Conceptual distinctions between work immigrants, reproductive work immigrants and refugees, dividing migrants between good and bad, legal and illegal, threats or victims, form a hierarchy based on social identities (race, gender, disability, sexual orientation, religion, nationality) which is used to justify oppressive government migration policies.

The resulting shifting of the public opinion towards foreigners was studied in migrant related tweets. Rather than a passive acceptance of this divisive portrayal by the public, potential for union with immigrants through shared experiences and shared class category is found. With a capitalist goal of exploitation of laborers at its root, the justification of government policies by oppressive narratives from the media is shown to not be fully accepted by the public, who turn to new media to get access to independent anti-capitalist journalism, and develop their own experienced-based narratives. While opportunities for union through narratives of shared experiences as migrants and laborers are found, the low levels of class consciousness in the Twitter public discourse limits the emergence of a social movement towards social justice for global citizens, as calls for empathy with immigrants are distracted towards charity and identity politics based descriptions of migrant discrimination. Elevating class awareness in new media could encourage the possibility of an alliance between local and migrant workers, in opposition to the mass media's alienating framing.

Pejorative Framing by Mass Media: The mass media is found to play an active role in framing migrant-related issues in a pejorative manner. Immigrants and refugees are portrayed as threats to the economy, illegals, criminals, victims, or burdens in need of charity. This framing creates a division of subgroups of migrants, oscillating between criminalized and victimized categories.

Hierarchical Division Based on Social Identities: The arbitrary division of migrants into subgroups is based on their social identities, which are linked to their work status and citizenship definition. Different categories include regular migrant workers, reproductive laborers (with a focus on marriage migrants), irregular migrant workers, and asylum seekers. This division shifts responsibility for integration and well-being from exploitative migration policies to the immigrants themselves.

Union Potential and Shared Experiences: The study finds that the public does not passively accept the divisive portrayal of foreigners by the mass media. There is potential for union and shared experiences with immigrants. While opportunities for union exist, the low levels of class consciousness in the public discourse on Twitter limit the emergence of a social movement for social justice. Calls for empathy with immigrants are often distracted by charity and identity politics, hindering the development of a unified movement against the alienating framing by mass media.

The division of workers into separated, isolated, fragmented, confrontational groups was visualized through the intertopic maps of each topic model. The distance in between these groups, and the frameworks of the narrative creating this distance was explored.

Known Problems and Limitations

The experiment provided topics over time, but the analysis was focused on the space between topics. The time information is not exploited here. Further time analysis of these same results could provide additional points of discussion. The role of the media in the shifting of public opinion was studied. This opinion is to accept government policies that align with the interests of the ruling class. Government policies would be the next crucial phase of this study.

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VIII. ANNEX

<u>Information on Topics - Mass Media Corpus (Chosun Ilbo, Joongang Ilbo and Donga Ilbo, 2009-2023)</u>			
Topic	Count	Label	Keywords (Eng)
-1	5176	Culture_Korea _Women_Marr iage	
0	7102	Culture_Park_ Women_Area	Culture Park Women Region Seoul Foreigners Refugee Korea Business National Relocation USA People Education Support Marriage Apartment Family Furniture Welfare
1	304	Trump_Preside nt_USA_Demo cratic Party	Trump President America Democratic Party Republican Candidate Election Biden House President Congressman Senate illegal immigration Obama government Mexico administration Exile Minister
2	244	Ukraine_Russi a_Ukraine_Ref ugees	Ukraine Russia Ukraine Refugees War Finland Poland Invasion NATO Accession Ukrainians United Nations Sweden Support Iwu Border Belarus Organization President After
3	210	Foreigners_Im migration_Poli cy_Workers	Foreigners Immigration Policy Workers Ministry of Justice Sojourn Minjung Lee Employment Expansion Manpower Government Country Budget Population Visa Immigration Employment Culturalism Illegal Libya
4	198	school_student _education_cul ture	School Student Education Culture University Korea Child Korean Professor Society Cyber Korean Program Elementary Middle School Support Irvine County Digital Department
5	197	Germany_Mer kel_Prime Minister_Refu gee	Germany Merkel Prime Minister Refugee Russia Europe East Germany Poland Unification Lawyers Policy Berlin Government President West Germany United States Woman Country people UK
6	121	China_Chinese _Visa_Jeju	China Chinese Visa Jeju Chinatown Economy Taiwan Prato Korea Tourist Hong Kong Lithuania Italy Immigration

			Smuggling Government Foreigner Euchre city illegal stay
7	94	Afghani_Taliban_Afghanistan_Pakistan	Afghanistan Taliban Afghanistan Pakistan Kabul Refugees Domestic Islam refugees United States Humanitarianism US Army Reign Escape Pashtun Government Stay Withdrawal problem international
8	87	Terrorism_Islam_France_Refugees	terror Islam France refugees Middle East forces Muslim Italy Paris People Europe World Syria Western Country Al Qaeda Bomb Religion War Afghanistan
9	81	Food_Jongwon_Baek_Cooking_Restaurant	Food JongWon Baek Cooking Restaurant Foreigner People Meat Burger Menu Korea Ingredients Culture Korean food Region Representative Shop China Peru Vietnam Market
10	78	Food_Season_Farmers_Vietnam	Food Seasons Farmers Vietnam Price Labour Workers World Farming Corona Illegal Stay Tribes Grains Rising Russia Situation Entry Potato Foreigner Korea
11	73	Russia_Ukraine_Ukraine_War	Russia Ukraine Ukraine War Putin Attack President Invasion Military USA Donbas Drone Economy USSR Missile Russian Army Region World West Vladimir
12	57	Iraq_Church_God_Pope	Iraq Church God Pope Religion Mosul Abraham Islam Christianity Ruins Love Old Testament Faith Destruction City Coexistence Visit Bible Mosque Ancient
13	57	Slaves_Israel_Workers_Peasants	Slaves Israel Workers Peasants Labor Jews USA China protest strike Jewish group force construction colonial Palestine government judiciary region Portman
14	57	Space_Soogeun_Kim_Architecture_Performance	Space Kim Soogeun Architecture Performance Music Love Musical Tokyo Artist Korea Art Cart Stage Hospital Seoul Victoria Song Architect culture Japan
15	49	Singapore_Corporate_World_China	Singapore Corporation World China Dollar Investment Society Economy Resort Growth Industry Foundation Business Casino Support Innovation Global Startup Activity Culture
16	46	Game_World_Cup_Croatia	Game World Cup Croatia Brazil Japan Quarterfinals Korea League Group Soccer

		Brazil	Time Qatar Morning Stadium HeungMin Son Second Half Player Portugal first half second half
17	44	Israel_Arab_Pa lestine_Sudan	Israel Arab Palestine Sudan AlBashir Country Islam Jewish America Middle East Jewish Netanyahu diplomatic relations approval military relationship Portman nationality Trump Jerusalem
18	36	Switzerland_S uicide_Foreign er_Season	Switzerland Suicide Foreigner Season Aid Lowest separate helper housekeeping worker labor Korea Wages Country Labor Items Forum Population low fertility rate
19	34	Taiwan_China _diplomacy_w ar	Taiwan China Diplomacy Warcraft Origin Taipei Annotation Ambassador Director Han Chinese Tactics After economic power USA speech emphasis military power warrior KoreanChinese origin
20	32	traffic accident_coope rative_pedestri an_driver	Traffic accidents Cooperatives Pedestrians Drivers Accidents Traffic Road Traffic Authority Vehicle Children Police Industrial Corporation Crossing motorcycles campaign fatalities reduction safety roads driving establishment
21	32	woman_prostit ution_business owner_police	Women Prostitution Business owner Police Violence Side suicide victim assault male person report Husband Crime Protest Incident Business Sexual assault Damage punishment
22	26	vaccination_in oculation_coro na_infection	Vaccine Inoculation Corona Infection Confirmation Foreigners Overseas Reservation Korean citizen National Bus Vietnam Virus Indonesia Standard Seed Residence Domestic quarantine self
23	23	Philippines_Ch ina_USA_Sout h China Sea	Philippines China USA South China Sea Pacific Spain Sovereignty Terre Base President Japan Geography Taiwan Training Additional Sovereignty Acts Sea Area India domination
24	23	Mars_Explorat ion_Earth_Rov er	Mars Exploration Earth Rover Space Manned launch probe spacecraft orbit China unmanned success humanity above arrival sky minimum landing USA
25	20	Olympic_Beiji ng_Women_At hlete	Olympics Beijing Women Athletes Skiing Participation Winter Medal Refugee Commissioner Tokyo Record China

			National Men Athletics America Games Immigration contest
26	19	abortion_pregnancy_lease_procedure	Abortion Pregnancy Lease Procedure Girl Woman Nicaragua United States Country President World Abolition rape trump ban front heart petition medical staff Hawon
27	15	Turkey_Syria_refugee_border	Turkey Syria Refugees Border Kurds Europe Operation surveillance Civil War Ehr Convention Barrier Greece Northeast Intercept Civilian Claim Start bombardment New Zealand
28	13	Hong Kong_Protest_China_Mainlanders	Hong Kong Protest China Mainlanders Wages Equality return rich and poor house price dollar gap average Anniversary Opposition Enterprise Avalanche Mainland Notice Just before rising
29	12	Drugs_Thailand_Cannabis_Legalization	Drugs Thailand Hemp Legalization Possession Daycare cultivation government firearms production Southeast Asia crime Myanmar Distribution Suspicion Criminal Medical Regulation Easing Asia

Table 1. Themes related to the portrayal of immigrants in the biggest local mass media outlets, along with the respective topics

Information on Topics - New Media Corpus (Naver News, 2022-2023)			
Topic	Count	Label	Keywords (Eng)
-1	3637	married_foreigner_female_immigrant	
0	3553	marriage_foreigner_family_immigrant	Marriage Foreigner Family Immigration Woman Center Culture Immigration Education Korea Korean Immigration Juno Lee Dongja Seoul Worker Support Vietnam target region
1	656	Marriage_Family_Women_Support	Marriage Family Women Support Center Culture Gyeonggido Foreigner Immigration immigrant Target Education Immigration Business Korea Society Gyeonggi Provision worker worker
2	446	Medical_Hospital_Church_Refugee	Health Hospital Church Refugees Health Worship immigrants support volunteer Daegu registration treatment medical care patient

		gee	damage free police Syria Christianity migration
3	392	construction_employment_worker_wages	Construction Employment Workers Wages Foreigners Employment site accident survivors work foreign children Juno Lee Worker Constitution Hanam Factory Manufacturing Late Payment Provision
4	302	Police_Criminal_Drug_Suspicion	Police Crime Drugs Suspicion Law Ryuja illegal assault nationality police station stay Thailand violation police agency arrest arrest police officer foreigner Male Jeju
5	261	season_farm_worker_rural	Season Farm Worker Rural Pig Foreigner Professor Farmhouse Agriculture Organic Cadaver Batch worker remark employment farmer entry manpower shortage when work
6	236	Italy_Vessel_Refugee_Coast	Italy Ships Refugees Coast Minimal Ships Local Southern Sinking Calabria Accident Africa Time Mediterranean Sea Communication Emigrants East Libya nearby neckline
7	129	Examination_Russia_Refugee_Russians	Examination Russia Refugee Russians Conscript Ministry of Justice Incheon Recognition Litigation Airport Referral Court Forced Decision War Victory Korea Opponent cancel reject
8	128	Registration_Disability_Child_Child	Registration Disability Child Child Hospital Parent medical care care children residents refugees children birth youth support problem migrant birth inoculation case
9	124	World_Cup_Qatar_Death_Organization	World Cup Qatar Death Organization Workers Stadium Morocco Soccer Preparation Juno Lee International Football Federation Dongja Immigration Human Rights United Kingdom Time Construction Guardian Local Chairman
10	113	Discrimination_Hate_Human_Rights_Crackdown	discrimination hate human rights regulation registration minorities society residents government halfhuman race immigrants Refugees Illegal Equality Deportation Groups Women Respect Suggestion
11	97	Refugee_Syria_Tur_Civil_War	Refugee Syria Tur Civil War Earthquake Climate United Nations Myanmar Sea level occurrence Times corpse World Border New York Gangjin Emigrants Organization rising hometown
12	75	Labor_Laborer_Lee_Juno_Don	labor worker Juno Lee dongja employment illegal problem field union discrimination human rights violence environment workplace

		gia	regulation condition wage relocation registration construction
13	67	tourist_tourism_foreign_travel_agency	Tourist Tourism Foreigner Travel Agency Duty Free Shop Resume China Silla Sales Home Enter Strategy VAT Refund Store EMart Service Leave shopping group
14	66	Canada_population_immigrants_last year	Canada Population Immigration Last Year Lord Trudeau Aggregation Agreement Issuance Stan Increase Statistics active official ruling prime minister temporary labor force regulations border
15	63	rent_economy_wage_house_price	Rent Economy Wages House price Workers Housing Foreigners Population Surge Employment Immigrants Real Estate Dongja USA Job People Switzerland Australia Modulation Effect
16	57	Poland_Ukraine_Refugee_Ukraine	Poland Ukraine Refugees Ukraine Reception Temporary President Ski War Britain Max Europe William Invasion Local Outbreak Institution Time United States United Nations
17	57	Germany_Merkel_Angela_Refugee	Germany Merkel Angela Refugees Prime Minister Acceptance Syria Election Then Mayor Policy Southwest Activity UNESCO Peace Prize Europe Civil War Adoption Population After
18	50	Food_Cooking_Class_Marriage	Food Cooking Classroom Marriage Tradition Korea Culture Cheongyanggun Cookroom Family Women Country Eating immigrant Vietnam Understanding Center Target Instructor Mom
19	46	USA_Mexico_Border_Venezuela	USA Mexico Border Venezuela Deportation Rio immigrant Texas illegal bravo border Latin America Millet Local Title Immigration Juárez Traveler El Paso Emigrant
20	35	Ukraine_Exploitation_Ukraine_Refugees	Ukraine Exploitation Ukraine Refugees World Forcing Russia Search War Speed Intro Situation Invasion Rescue Relief Committee Scale Country result term
21	26	Chinese_abduction_indecent_act_special law	Chinese Kidnapped Indecent Act Special Law Prison Service Suspicion Law Ryuja Sex crime Restriction Punishment Rape Forcing Prosecution Supreme Court Crime Confirmation Sexual Violence China female
22	22	Language_Reporters_International	Language Reporters International Students Documents Start Information Game Participation Need Provided Resident Interview settlement

		al Students_ Documents	foreigner domestic Vietnamese marriage examination Chinese History
23	19	Somalia_K enya_Dada _Refugees	Somalia Kenya Dada Refugee Crisis Conflict Inflow Camp Induction Survival Rescue Recovery Drought Climate Disaster Additional Pakistan Including Committee War
24	18	Hawaii_In cheon_Poc heong_Onl y child	Hawaii Incheon Pocheong Only child Japan Arrival immigrant departure immigrant Korean generation first Pier Village Anniversary Capital United States Jeongbok Yu Veterans World
25	14	PR_Ambas sador_Cyb er_School	PR Ambassador Cyber School Victoria Commission Frenchman Rooney Gyeongbuk Education Office Switch Foreigner Lim Jongsik Superintendent Gyeongju This time Korean France Korea Selection
26	13	Hate_Cent ral Asia_Israel _Palestine	Hate Central Asia Israel Palestinian Confirmation Authors relocation force North Africa EU invasion counterpart Tunisia President Human Rights Personnel Oppression Writer Korean conflict
27	11	Forum_Cu lture_Mem ber_Policy	Forum Culture Congress Policy Topic Meeting Room hosting hall immigrants integration local government role Nation Council City Society Population Utilization expert active
28	11	Palestine_I srael_Arm ed_Lebano n	Palestine Israel Armed Lebanon Jenin Xian force search Iran attack subject refugee North Earth Raid Operation Conflict Possible authority confirmation
29	10	Singapore_ Population _Thailand_ Statistical Office	Singapore Population Thailand Statistics Office Korea between Statistics Helper Taiwan Baseline Estimated Households Industrial Complex Tourist Decrease Overseas Law Laws Ryuja announcement

Table 2. Topics extracted from the New Media Corpus

Information on Topics - Tweets Corpus (Year 2022)				
Topic	Count	Label	Keywords (Kor)	Keywords (Eng)
1	31813	Korea_Foreigner_Korean	한국 외국인 한국인 한국어 외국인이 한국에 한국에서 너무 외국인들이 진짜	Korean Foreigner Korean Korean Foreigner In Korea In Korea Too Foreigners Really
2	7641	Japan_Visa_Japanese	일본 비자 일본어 일본에서 일본에 일본은 관광비자 일본인 여행 입국	Japan Visa Japanese In Japan To Japan Japan is Tourist Visa Japanese Travel Immigration
3	8069	English_In_English_Foreigner	영어 영어로 외국인 학교 영어를 내가 오늘 외국인이 수업 친구	English In English Foreigner School Speak English I Today Foreigner Class Friend
4	7622	Refugee_Foreigner_Ukraine	난민 외국인 우크라이나 여성 결혼 이민자 우크라 위해 난민들 있는	Refugees Foreigners Ukraine Women Marriage Immigrants Ukraine For refugees having
5	1601	Cambodia_Information_Information	캄보디아 정보 정보를 도흥참외정보화마을 koica 연수생 성주 쪽도 없었습니다 호텔에	Cambodia Information Information Doheung Melon Information Village koica Trainee Seongju Nokdo There was none At the hotel
6	1227	Amasia_ties_to_foreigners	아마시아 인연부터 외국인까지 가까운 나와 주민 착각하는 많나 세카이 주민들을	Amasia Relations Foreigners Near Me Residents mistaking many sekai residents
7	1869	China_Chinese_Chinese	중국 중국인 중국어 외국인 중국은 중국이 중국에서 중국인이 중국에 중국어로	China Chinese Chinese Foreigner Chinese Chinese In China Chinese In China In Chinese
8	3000	Tourists_Foreigners_Travelers	관광객 외국인 여행객에게 우리가 배워도 사회 관광 우리는 여행 우리도	Tourists Foreigners To travelers We Even if we learn Society tourism we travel we
9	1013	Germany_in_Germany_German	독일 독일에서 독일어 독일에 독일인 이민자 난민 독일은 독일어를 독일의	Germany In Germany German To Germany Germans immigrants refugee Germany German German

10	20030	foreigners _foreigner s_foreign ers	외국인 외국인이 외국인들이 너무 거래소 진짜 대한외국인 순매수도 상위종목 외국인은	Foreigners Foreigners Foreigners Too Exchange Real Foreigners Net buyers Top stocks Foreigners
11	851	Itaewon_i s_a city	이태원은 도시라고 하지 살기 한국의 좋은 이태원 외국인들이 참사 사망자	Itaewon City Haji Living Korean Good Itaewon foreigners disaster death
12	1681	Naver_So urce_vEnt ertainmen t	네이버 출처 v연예 뉴스 스포츠 대한외국인 이해못한 유머를 김희재 임영웅	Naver Source v Entertainment News Sports Foreigners I didnt understand humor Kim Heejae Lim Youngwoong
13	854	tears_choi ce idol celebrity_ tears	눈물 최애돌셀럽 눈물이 임영웅 배너 눈물나 너무 눈물의 눈물만 외국인	Tears My Favorite Idol Celeb Tears Lim Youngwoong Banner Tears Me Too Tearful Only tears Foreigner
14	214	Corruptio n_Types_ Interestin g	부패 유형은 흥미롭다 조폭에 알아보시다 매우 한국 실종시키고 모르긴 외국인이니깐	Corruption Type Interesting Gangsters Lets find out Very Korea Missing I dont know Because Im a foreigner
15	117	statistics_ according to_statisti cs	통계에 의하면 통계 한국③ d업종 불법체류 핵심 인력 농촌 시범생산	Statistics According to Statistics Korea③ d Industry Illegal Sojourn core manpower rural pilot production
16	443	World_Int erview_W orld	세상에 면접 세상 면접을 면접사퇴 사퇴하고 유용한아르바이트정보 아르바이트 세상물정도 캐봉을	Oh my God Interview World Interview Withdrawal from interview Resigning Useful parttime job information Parttime job About the world Kaebung
17	257	confessio n_story_c hat	고백 스토리 잡담 외국인의 스토리를 러브스토리 악뮤 大공개 신부와 들어보세요	Confession Story Chat Foreigner Story Love Story Akmu Big Disclosure With the Bride Listen
18	1913	refugees_ refugees_ refugees	난민 난민을 난민이 사파리 이집트 단은 난민이라고 없으니 양도 인정	Refugees Refugees Refugees Safari Egypt Dan is refugee no transfer recognized
19	1058	migrants_ to alien_plan et	이주민 외계 행성에 박의현이 거뒀간 박의현의 포토그래퍼 병사 한때는 변태	Emigrants Aliens On the planet Park Euiheon taken away Parks Overture Photographer Soldier Once upon a time Pervert

20	121	Homo_Are you ashamed_A lover	호모 부끄러운가 애인은 드러내놓기 애인 외국인인 대학생 고사성어 집스타그램 데일리룩	Homo Are you ashamed A lover Exposing lover Foreigner college student old proverb homestagram daily look
21	386	economy_daily economy_news	경제 매일경제 뉴스 출처 네이버 한국경제 외국인환자 만명 돌파 찾은	Economy Maeil Economy News Source Naver Korea Economy foreign patients 10 thousand people breakthrough found
22	309	broadcast_bikini_viewers	방송 비키니 시청자가 탄로 전세금 억은 엔지니어 살았다 뇌물 거짓말	Broadcasting Bikini Viewers Disclosure Prices Billion dollars engineer lived bribe lie
23	202	Police_Police_Bean Rice	경찰 경찰은 콩밥 먹일 있나 외국인도 경찰기독신문 경찰이 전북경찰 외국인	Police Police Bean rice Feed Are there Foreigners Police Christian Newspaper Police Jeonbuk Police Foreigners
24	77	timer_pennener_hassing	틈메이러 빼네너 헤이싱 바나나도 계란도 껌란느 토마토도 거야 외국인은 바나나	Cheommeyer Funnener Hasing Bananado Eggs Gellane Tomatodo Go Foreigners Banana
25	478	KOSDAQ_Net purchase_top stocks	코스닥 순매수도 상위종목 사자 주간 외국인 코스피 반등 이틀 만에	KOSDAQ Net purchases Top stocks Lion Weekly Foreigners KOSPI Rebound Two days After a while
26	615	Refugee_Let's leave_I said that'	난민 떠나자고 그랬잖아 유엔난민기구 시리아 우크라이나 유엔 어린이 유니세프에 발견	Refugees Lets leave I did UNHCR Syria Ukraine United Nations Children To UNICEF Discovery
27	518	Food_Food_Korea	음식 음식을 한국 귀국 오후 외국인 아침 먹고 김치 길거리	Food Food Korea Return Afternoon Foreigners Breakfast Eating Kimchi Street
28	916	immigrant_Ireland_play	이민자 아일랜드 연주를 여론이 했어요 불법체류자 영국 이민자들이 노래 손때길	immigrant Ireland music public opinion I did illegal alien Britain immigrants song Hands off
29	58	equation_brother_refugee	방정식 형제 난민이지만 연련장에서 오시예요 히자마루 전해주면 음료수를 도망갔다 겐지	Equation Brother Refugee At the training ground Come here Hijamaru Give it to me Drink Run away Genji

Table 3. Topics extracted from the 2022 date Tweets corpus

Seed Topic List guiding the language model BERTopic		
Topics	Keywords (Kor)	Keywords (Eng)
1	'실업', '일자리', '작업 경쟁', '취업 경쟁', '직장 잃', '경쟁'	'unemployment', 'jobs', 'work competition', 'job competition', 'job loss', 'competition'
2	'건강 보험', '병원', '복지', '보건 의료 서비스', '보건의료', '보건의료 요구', '의료 혜택', '보험 혜택', '의료', '건강', '의료 혜택', '보건의료 정책', 'IHS', 'NHS', '의료 서비스', '사회 복지'	'Health insurance', 'hospital', 'welfare', 'healthcare services', 'healthcare', 'healthcare needs', 'medical benefits', 'insurance benefits', 'medical', 'health', 'Medical Benefits', 'Health Care Policy', 'IHS', 'NHS', 'Medical Services', 'Social Welfare'
3	'세금', '불경기'	'tax', 'recession'
4	'한국어 실력', '문화 교류', '통합', '언어 장벽', '동화', '사회 통합 프로그램', '공동'	'Korean Language Proficiency', 'Cultural Exchange', 'Integration', 'Language Barrier', 'Assimilation', 'Social Integration Program', 'Community'
5	'불법', '범죄', '위험', '살인', '강도', '절도', '매춘', '마약', '사이버 범죄', '텔레뱅킹 사기', '피싱', '외국인 범죄', '위조범', '밀수품', '산업연수생 범죄'	'illegal', 'criminal', 'danger', 'murder', 'robbery', 'theft', 'prostitution', 'drugs', 'cybercrime', 'televanking fraud', 'phishing', 'foreign crime', 'counterfeiter', 'smuggled goods', 'industrial trainee crime'
6	'테러', '테러 분자', '테러리즘', '테러리스트', '사보타주'	'terror', 'terrorist', 'terrorism', 'terrorist', 'sabotage'
7	'민족주의', '한국적 가치관', '한국성', '국가 이미지', '한국 이미지'	'Nationalism', 'Korean Values, Koreanness', 'National Image', 'Korean Image'
8	'정부', '법무부', '윤석열', '문재인', '박근혜', '이명박', '노무현', '김대중', '대통령', '통치'	'Government', 'Ministry of Justice', 'Yoon Seok-yeol', 'Moon Jae-in', 'Park Geun-hye', 'Lee Myung-bak', 'Roh Moo-hyun', 'Kim Dae-jung', 'President', 'Reign'
9	'국적', '교포', '미국', '일본', '이집트', '주전자', '고려인', '러시아', '흑인', '아랍', '라틴아메리카', '베트남', '동포', '백인', '조선족', '러시아인', '미국인', '유럽인', '서구인', '서양인', '동남아시아인', '동남아인', '우즈베크인', '우즈베키스탄 이주', '중국인', '중국', '아프리카', '인도', '우크라이나', '중동', '몽골인', '몽골', '탈북이주민', '북한이탈주민'	'Nationality', 'Koreans', 'USA', 'Japan', 'Egypt', 'Kettle', 'Koreans', 'Russia', 'Blacks', 'Arab', 'Latin America', 'Vietnam', 'Dungpo', 'Caucasian', 'Korean-Chinese', 'Russian', 'American', 'European', 'Western', 'Western', 'Southeast Asian', 'Southeast Asian', 'Uzbek', 'Immigration to Uzbekistan', 'Chinese', 'China', 'Africa', 'India', 'Ukraine', 'Middle East', 'Mongolian', 'Mongolia', 'North Korean defector', 'North Korean defector'
10	'이주여성', '여성이주노동자', '여성', '여자', '젠더'	'migrant women', 'female migrant workers', 'women', 'women', 'gender'

11	'MTU', '조합', '이주노동희망센터', '이민자 센터', '연대', '이주노동자노동조합', '이주노조', '이주노동자 노동조합', '이주민센터 친구', '상담'	'MTU', 'Union', 'Migration Labor Hope Center', 'Immigration Center', 'Solidarity', 'Migration Workers Union', 'Migrant Labor Union', 'Migrant Workers Union', 'Friends of Migrant Center', 'consulting'
12	'국제결혼', '외국인 신부', '결혼이민자', '결혼이민', '결혼이주자', '결혼 중개업', '이민자 부모', '결혼', '이혼', '아내', '남편', '신부', '가정 폭력', '가족 폭력'	'international marriage', 'foreign bride', 'marriage immigrant', 'marriage immigrant', 'marriage immigrant', 'marriage broker', 'immigrant parent', 'marriage', 'divorce', 'wife', 'husband', 'The Bride', 'Domestic Violence', 'Family Violence'
13	'가족', '다문화주의', '외국인 아동', '다문화 가정', '이민자 부모', '임산부', '임신', '어린이', '부모님', '다문화가족'	'Family', 'multiculturalism', 'foreign children', 'multicultural families', 'immigrant parents', 'pregnant women', 'pregnancy', 'children', 'parents', 'multicultural families'
14	'무슬림', '이슬람교도', '이슬람', '무슬리마'	'Muslim', 'Muslim', 'Muslim', 'Muslima'
15	'선생님', '영어 선생님', '부자', '사업가', '투자자', '교수', '상용 비자'	'Teacher', 'English teacher', 'rich man', 'businessman', 'investor', 'professor', 'commercial visa'
16	'농장', '건설', '선박', '어업', 'E9', '고용허가제', '서비스업', '농축산업', '건설업', '제조업', '건설공사', '작물채배업', '축산업', '양식어업', '소금채취업', '비전문취업', '건설폐기물처리업', '육체노동', '공장', '건설노동자', '계절 노동자', '3D 업종', '산업연수생 시스템'	'Farm', 'Construction', 'Ship', 'Fishing', 'E9', 'Employment Permit System', 'Service Industry', 'Agriculture and Livestock Industry', 'Construction Industry', 'Manufacturing', 'Construction Work', 'Crop Cultivation Industry', 'livestock industry', 'fish farming', 'salt extraction', 'non-professional employment', 'construction waste disposal', 'manual labor', 'factory', 'construction worker', 'seasonal worker', '3D industry', 'Industrial Trainee System'
17	'가사도우미', '입주도우미', '육아도우미', '간병도우미', '베이비시터', '외국인 가사도우미', '돌봄도우미', '간병인', '도우미', '요식업', '식업'	'housekeeper', 'residence helper', 'parenting helper', 'caring helper', 'babysitter', 'foreign housekeeper', 'caregiver', 'caregiver', 'assistant', 'restaurant', 'restaurant'
18	'관광객', '여행', '문화', '여행자', '관광'	'Tourist', 'Travel', 'Culture', 'Traveler', 'Tourism'
19	'학생', '학교', '대학교', '대학생', '교환 학생', '유학비자', '유학', '어학연수', '교환학생', '연구유학'	'student', 'school', 'university', 'college student', 'exchange student', 'student visa', 'study abroad', 'language training', 'exchange student', 'research study abroad'
20	'탈북자', '북한이탈주민', '탈북', '탈북자', '탈북민', '새터민', '북한이탈주민'	'North Korean defector', 'North Korean refugee'

21	'불법체류자','불법체류 외국인', '불법체류','미등록','미등록 이주자', '불체자','미등록외국인근로자', '외국인 불법 근로자','무허가 노동자'	'Illegal aliens', 'illegal aliens', 'illegal aliens', 'unregistered', 'unregistered immigrants', 'unregistered persons', 'unregistered foreign workers', 'illegal foreign workers', 'unauthorized workers'
22	'난민','피난자','예멘', '미얀마','파키스탄','방글라데시','에 티오피아','망명 신청자'	'Refugees', 'Refugees', 'Yemen', 'Myanmar', 'Pakistan', 'Bangladesh', 'Ethiopia', 'Asylum seekers'
23	'변호사','법원','비자','법', '이민법','시민권','노동법','국적법', '이민 정책','근로기준법'	'Attorney', 'Court', 'Visa', 'Law', 'Immigration Law', 'Citizenship', 'Labor Law', 'Nationality Law', 'Immigration Policy', 'Labor Standards Act'
24	'출입국관리소','비자연장', '비자유형변경','비자신청','영주권', '체류허가','비자'	'Immigration office', 'Visa extension', 'Visa type change', 'Visa application', 'Permanent residency', 'Sojourn permission', 'Visa'
25	'저임금 노동','값싼 노동자', '저임금', '최저임금','고용','계급','자본'	'Low Wage Labor', 'Cheap Worker', 'Low Wage', 'Minimum Wage', 'Employment', 'Class', 'Capital'
26	'노동 착취','남용','착취','사고','직장 괴롭힘','괴롭힘','근로환경','작업 조건','폭력','노예'	'Exploitation', 'abuse', 'exploitation', 'accident', 'workplace bullying', 'harassment', 'working conditions', 'working conditions', 'violence', 'slavery'
27	'노동시간','복지','시설','산업재해', '임금체불','시간외 수당', '해고','부상 보상'	'Working hours', 'welfare', 'facility', 'industrial accident', 'overdue wages', 'overtime pay', 'dismissal', 'injury compensation'
28	'경찰단속','단속','합동단속', '정부합동단속', '단속추방','추방','강제추방','외국인 보호소','경찰', '감옥','국경검사','한국경찰','구속'	'Police crackdown', 'crackdown', 'joint crackdown', 'government joint crackdown', 'crackdown', 'deportation', 'forced deportation', 'foreigner shelter', 'police', 'prison', 'border inspection', 'Korean police', 'arrest'
29	'차별','차별금지','외국인 혐오','소수자','배제','불평등','계층', '고정관념','낙인','선입견','인종차별', '기본권','평등','불평등','편견','인권'	'Discrimination', 'non-discrimination', 'xenophobia', 'minority', 'exclusion', 'inequality', 'class', 'stereotype', 'stigma', 'prejudice', 'racism', 'basic rights', 'equality', 'inequality', 'prejudice', 'human rights'
30	'경제','경제이주','경제적 이득', '노동수요','노동력 부족','이윤'	'economy', 'economic migration', 'economic gain', 'labor demand', 'labor shortage', 'profit'

Table 4. Seed Topic List guiding the language model BERTopic