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Exploring the Influence of Online Social Cues on Korean Teens' Outgroup Perception

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Key Words: bandwagon effect, social cues, digital media, Korean teens, China perception

|ABSTRACT|

The bandwagon effect, or the tendency to adopt widely accepted views, is amplified on social media through popularity cues such as likes, views, and comments. Teens, who are often unfamiliar with social issues and desire social acceptance, may be especially vulnerable to these cues. This study examines how South Korean teenagers (ages 14-18) respond to popularity cues in digital news content that negatively portrays outgroups. In a survey experiment, teens watched the same anti-Chinese video with varying popularity cues and answered questions about the credibility of the content, their willingness to engage with it (e.g., liking the video), and their attitudes toward China. While popularity cues did not significantly influence perceived credibility or willingness to engage, they did influence attitudes. Unexpectedly, participants exposed to high popularity cues reported more favorable views of China. We offer several speculations about these unexpected findings, including the snob effect, wherein teens distance themselves from the perceived majority opinion. These results highlight the complex role of popularity cues in shaping adolescents' attitudes toward outgroups.

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Ⅰ. Introduction

Research notes that individuals often adopt attitudes or behaviors widely accepted by others, a phenomenon known as the "bandwagon effect."[1] This phenomenon is amplified in the digital space, where visible and simple social popularity cues, such as the number of likes, comments, and ratings on social media platforms, play a significant role in shaping users' opinions and actions.[2] Existing studies suggest that teens are particularly susceptible to bandwagoning.[3] This susceptibility arises from developmental factors unique to adolescence, such as a heightened desire for social acceptance and increased sensitivity to peer influence[4] as well as their low familiarity with social issues and limited media literacy.[5]

Against this backdrop, we seek to understand how South Korean teens respond to social popularity cues in processing digital media contents. South Korea (hereafter Korea) has faced criticism for not fully integrating media literacy education into school curriculum.[6] Indeed, Korean teens score lower in media literacy than their counterparts in OECD countries,[7] suggesting that they may have limited ability to

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1) Jonathan Howard, *Cognitive Errors and Diagnostic Mistakes: A Case-Based Guide to Critical Thinking in Medicine* (New York: Springer, 2018), pp. 21-56.

2) Sai Wang, Tsz Hang Chu, and Guanxiong Huang, "Do Bandwagon Cues Affect Credibility Perceptions? A Meta-Analysis of the Experimental Evidence," *Communication Research*, Vol. 50, No. 6 (2023), pp. 720-744.

3) Sundar S. Shyam, "The MAIN Model: A Heuristic Approach to Understanding Technology Effects on Credibility," in Miriam Metzger and Andrew Flanagin (eds.), *Digital Media, Youth, and Credibility* (Cambridge: The MIT Press, 2008), pp. 73-100.

4) 김지현·구정화, "초기 청소년들(Tweens)의 정보요구와 유튜브(YouTube)에서의 정보추구행태," 『한국도서관·정보학회지』 제52권 제2호 (2021), pp. 275-330.

5) Yipin Lv, "Cultivation of Teenagers' Digital Media Literacy and Network Legal Literacy in the Era of Digital Virtual Technology," *Scientific Programming* (2022), pp. 6-9.

6) Korean Educational Development Institute, *PISA 21st Century Readers: Developing Literacy Skills in a Digital World* (Jincheon: KEDI, 2021), p. 73.

7) In a media literacy test conducted as part of the Program for International Student

critically evaluate information or distinguish between facts and opinions[8] and are thus highly susceptible to social popularity cues in the digital space.

Such susceptibility can be especially pronounced on issues pertaining to outgroups that Korean teens may not have firsthand experience with, as Korea has long remained more ethnically homogeneous compared to many other developed economies. The gradual increase of foreign residents has heightened outgroup anxiety in the country, reflected in the generally negative narratives about foreigners in the media where not only major news outlets but also individual content creators portray non-Korean residents as socially marginalized, reliant on government aid, or potential criminals.[9]

Therefore, we focus on how social popularity cues influence Korean teens' processing of negative online information about outgroups. We designed an original survey experiment involving teens between the ages of 14 and 18. Participants were exposed to the same video clip, which negatively portrayed Chinese in Korea and the Korean government's lenient policies toward them, with randomly varying popularity cues. One group views the video with visible cues indicating high popularity of the content, including a high number of views and a large number of comments. Another group views the video with the same content but with cues indicating low popularity of the content, such as low view counts and few comments. After viewing the video, participants

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Assessment (PISA) in 2018, South Korean teens had an average correct response rate of 25.6%, compared to the OECD average of 47.4%. See OECD, *21st-Century Readers: Developing Literacy Skills in a Digital World* (Paris: OECD Publishing, 2021).

8) Korean Education Development Institute (2021), pp.70-72.

9) 임준, "한국거주 외국인 이주노동자에 대한 텔레비전 보도 경향 연구: 〈MBC〉, 〈KBS〉, 〈SBS〉저녁뉴스와 〈YTN〉 뉴스를 중심으로," 『사회과학연구』 제57권 제1호 (2018), pp. 321-354; 박장효, "중국인에 대한 '제노포비아' 유튜브 확산에 대한 연구," 『한국콘텐츠학회논문지』 제23권 제2호 (2023), pp. 280-290.

answered questions about the content's reliability, their willingness to engage or "like" the video, and their views on China as well as the Korean government.

We hypothesize that teens exposed to higher popularity cues will exhibit stronger bandwagoning behavior, making them more likely to believe the content's reliability, engage with it by "liking" the video, and adopt more negative attitudes toward China in line with the video's negative portrayal of them. The results show that while the number of likes did not significantly affect perceptions of content reliability or willingness to engage, it did influence attitudes toward China. Contrary to our expectations, however, teens exposed to higher popularity cues displayed more positive views toward China, rather than bandwagoning with the negative content. We speculate that this may be explained by a "snob effect," where teens seek to differentiate themselves from the majority opinion by resisting the mainstream view.

The reminder of the study is organized as follows. Section II reviews the literature on bandwagoning in the digital space, with a focus on the heightened susceptibility of youth to this bias. In light of the literature, we discuss the case of Korean teens and derive the hypotheses for this study. Section III describes the research design, Section IV presents the main findings, and Section V concludes with the study's limitations and suggestions for future research.

Ⅱ. Literature Review and Theoretical Expectations

This section begins with a review of existing studies on how bandwagoning driven by social cues manifests and intensifies, particularly in shaping outgroup attitudes. We then discuss how teens, compared to other demographic groups, are particularly susceptible

to this bias. Lastly, we narrow the focus to South Korea to derive our hypotheses.

1. Social Cues and Bandwagoning

The bandwagon effect is a social phenomenon where individuals adopt certain attitudes or behaviors based on their perception that others are doing the same.[10] In the context of online information and digital platforms, this effect can manifest through visible and easily digestible indicators of collective approval, such as the number of likes, five-star ratings, or other aggregated metrics. It is also highlighted that the bandwagon effect is more pronounced when multiple such cues are present rather than a single cue.[11] These cues together serve as implicit signals to users, suggesting that a piece of content has been vetted and endorsed by a broader audience; this phenomenon is referred to as "big-gets-bigger" or "winner-takes-all" movement.[12] The users rely on such cues to choose which website they would be interested to view, what products to buy, and even what ideology they follow which can lead their political ideas and behaviors.[13]

Research suggests that the effect of social cues and the resulting bandwagoning behaviors is amplified when individuals' knowledge or confidence regarding a specific piece of content is limited.[14] This makes

10) Howard (2018), pp. 21-56.

11) Sundar S. Shyam, Silvia Knobloch-Westerwick, and Matthias R. Hastall, "News Cues: Information Scent and Cognitive Heuristics," *Journal of the American Society for Information Science and Technology*, Vol. 58, No. 3 (2007), pp. 366–378.

12) Wayne W. Fu and Clarice C. Sim, "Aggregate Bandwagon Effect on Online Videos' Viewership: Value Uncertainty, Popularity Cues, and Heuristics," *Journal of the American Society for Information Science and Technology,* Vol. 62, No. 12 (2011), pp. 2382-2384.

13) Sundar S. Shyam, Anne Oeldorf-Hirsch, and Qian Xu, "The Bandwagon Effect of Collaborative Filtering Technology," in *CHI '08 Extended Abstracts on Human Factors in Computing Systems* (New York: Association for Computing Machinery, 2008), pp. 3453–3458.

opinions about unfamiliar outgroups particularly vulnerable to bandwagoning. Empirical studies show that the public's reaction to migrants and refugees depends heavily on how media portrays them to the public; people tend to exhibit negative sentiments when they face negative news reports on immigrants and refugees and show positive attitudes when they consume positive news reports.[15] Among the negative reports, fake news about outgroups that employs "shock value" and "sensationalism" further deepens the hate sentiments towards them.[16]

2. Bandwagoning among Teens

Adolescence is a transformative and transitional phase of life, marked by significant physical, psychological, and emotional changes. During this stage, teenagers develop a subconscious network of needs, emotions, and consciousness.[17] The development environment – including family background, peer relationships, and school settings – exerts a profound influence on adolescents, shaping their values and perceptions of the world.[18] Adolescence is also a time when individuals shift from relying on parents and teachers for guidance to seeking independence in acquiring and evaluating information. Teenagers with this autonomy experience the world by building their own self-expression and communicating with others in digital space. Social media, especially,

14) Howard (2018), pp. 21-56.

15) Chrysalis Wright, Rebecca Brinklow-Vaughn, Kelsea Johannes, and Fiordaliz Rodriguez, "Media Portrayals of Immigration and Refugees in Hard and Fake News and Their Impact on Consumer Attitudes," *Howard Journal of Communications*, Vol. 32, No. 4 (2020), pp. 331–351.

16) Soroush Vosoughi, Deb Roy, and Sinan Aral, "The Spread of True and False News Online," *Science,* Vol. 359, No. 6380 (2018), pp. 211-236; Wright et al. (2021), pp. 344-347.

17) Lv (2022), pp. 1-2.

18) 고영희· 홍후조, "사춘기 초기 적응 교육과정 개발을 위한 요구분석," 『한국교육학연구』 제18권 제2호 (2012), pp. 233-262.

extends their digital space where they can access a variety of information. However, a rising danger lies in the fact that the accuracy of the content they consume is often unclear.[19] Limited life experience, underdeveloped critical thinking skills, emotional sensitivity and desire for social belonging make them particularly susceptible to readily available popularity cues on social media.[20] These cues trigger automatic judgments, leading young people to assess the credibility of information without deeper scrutiny.

The susceptibility of teenagers to social cues in the digital space is likely to shape their opinions on key social issues, including attitudes toward outgroups. Adolescence is a critical period in identity development, including ethnic identity, suggesting that outgroup attitudes are still highly malleable. The more frequently teenagers consume media coverage related to ethnicity online, the more salient ethnicity becomes in their lives.[21] The information they receive during this stage of life can also shape and alter ethnic prejudice, influencing their attitudes toward other ethnic groups.[22]

In essence, adolescence, as a transformative and identity-shaping phase, combined with teens' sensitivity to social popularity cues online,

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19) Shyam (2008), p. 73.

20) Shyam (2008), pp. 83-85, 93; Lv (2022), pp. 1-2.

21) Brendesha M. Tynes, Michael T. Giang, and Geneene N. Thompson, "Ethnic Identity, Intergroup Contact, and Outgroup Orientation among Diverse Groups of Adolescents on the Internet," *Cyberpsychol Behav*, Vol. 11, No. 4 (2008), pp. 459-465.

22) Seçil Gönültaş and Kelly L. Mulvey, "Does Negative Media Representation Shape Adolescents' Discrimination towards Syrian Refugees through Threat Perception and Prejudice?" *International Journal of Intercultural Relations*, Vol. 95, No. 4 (2023), pp. 1-9; Giulia Fuochi, Alberto Voci, Chiara A. Veneziani, Jessica Boin, Benjamin Fell, and Miles Hewstone, "Is Negative Mass Media News Always Associated with Outgroup Prejudice? The Buffering Role of Direct Contact," *Group Processes & Intergroup Relations*, Vol. 23, No. 2 (2020), pp. 195-213; Beatrice Bobba, Adele Miniati, and Elisabetta Crocetti, "When Ethnic Minorities Hit the Headlines: The Longitudinal Associations between News Features and Adolescents' Ethnic Prejudice," *Journal of Research on Adolescence*, Vol. 34, No. 4 (2024), pp. 1456–1470.

makes them especially susceptible to bandwagoning with seemingly popular online content that negatively portrays outgroups.

3. Social Cues and Korean Teens' Perceptions of Outgroups

This subsection will narrow the focus to Korea as the basis for deriving our hypotheses. In light of the literature discussed in the previous subsections, we suggest that social cues influence how Korean teens process information about outgroups in the digital space. We argue that Korea is a likely case for observing teens' susceptibility to social cues for several reasons.

First, Korea's collectivist cultural orientation makes it a likely case for observing bandwagoning. Existing literature suggests that individuals from collectivist cultures, such as Korea where group harmony and consensus are prioritized exhibit greater susceptibility to bandwagon cues than those from individualistic cultures, where personal judgment and independence are emphasized.[23)]

Second, Korea's weak media literacy education further strengthens its relevance as a case study.[24)] Korean teens reportedly lag behind the OECD average in distinguishing facts from opinions, particularly in digital contexts.[25)] In a recent assessment, Korean students scored 26 – far below the OECD average of 39 – ranking 58th out of 70 countries.[26)]

Third, Korea is a relatively ethnically homogeneous country with high levels of outgroup anxiety and negative sentiments in society. Korean media often depict outgroups, particularly non-Western ones, as

23) Wang et al. (2023), pp. 734-736.

24) 진민정 외, 『미디어 리터러시 교육의 융합적 접근』 (한국언론진흥재단, 2020); 한국언론진흥재단, "미디어 교육원," https://www.meca.or.kr/edu-center/introduce/introduce?view=view10 (검색일: 2025년 1월 27일).

25) OECD (2021), pp. 110-113; Korean Educational Development Institute (2021), pp. 70-73.

26) OECD (2021), p. 110.

inferior, vulnerable, and marginalized, creating a binary opposition that positions Korean culture as superior.[27] Studies indicate that such portrayals in TV programs and other media not only negatively affect foreign subjects but also shape adolescents' attitudes during a critical stage of value formation.[28] Research also highlights the role of YouTube as a dominant mobile media platform in perpetuating xenophobia, particularly against Chinese individuals in Korea.[29] Some viewers exhibit extreme aversion, illustrating how YouTube can amplify xenophobic sentiments and contribute to social divisions. A recent study reports that Korean teenagers spend an average of 46 hours and 52 minutes per month on YouTube, which is more than any other age grou p,[30] suggesting a high level of exposure to potentially xenophobic media content.

Based on the above discussion, we propose the following hypotheses:

H1: Korean teens exposed to online news content about outgroups with higher popularity cues will be more likely to believe the information presented.

H2: Korean teens exposed to online news content about outgroups with higher popularity cues will be more likely to engage with the content by liking the video.

H3: Korean teens exposed to online news content about outgroups higher popularity cues will be more likely to align their opinions with the content of the video.

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27) 임준 (2018), pp. 322-324.

28) 배상률·이재연, 『미디어가 청소년에게 미치는 문화배양효과 연구』 (한국청소년정책연구원, 2012), pp. 35-54.

29) 박장효 (2023), pp. 281-283.

30) 김지현·구정화 (2021), pp. 276-279.

Ⅲ. Research Design

1. Sample

We test the hypotheses presented in Section II by designing and implementing an original survey-based experiment in South Korea. The survey targeted youth aged 14 to 18 years (from second-year middle school to third-year high school) nationwide. The total sample size was 500. To ensure balanced representation from each school level, the sample was stratified so that we have 250 middle school students and 250 high school students. The sample comprised 300 female students (60%) and 200 male students (40%).

2. Survey Design

Before proceeding to the main questionnaire, participants were presented with a consent form that thoroughly explained their rights, including the option to pause or withdraw from the survey at any point. They were provided with information on data privacy, security, and voluntary participation. Only after explicit consent was obtained were participants able to proceed.

The survey began with general demographic questions, such as age and geographical location. Participants were then randomly assigned to either Group A (Low Popularity Cue) or Group B. (High Popularity Cue). Both Group A and Group B were exposed to the same video content, but with different the number of likes and comments. Group A viewed the video with a low number of likes and comments while Group B watched the same video with a high number of likes and thousands of comments, signalling the video's perceived popularity and influence.

The content of the video was carefully chosen for its relevance and

controversy. The topic revolves around the idea that Jeju Island, a popular tourist destination in Korea, is "becoming a Chinese island." This narrative was reported by several South Korean news outlets, including MBC,[31] SBS,[32] KBS,[33] and YTN.[34] The video used in this study is specifically titled "'Jeju Island Becoming a 'Chinese Island,' What is South Korea Doing?' Critical Warning from Taiwanese Media." The narratives from the video content are as follows:

> A warning has been issued by Taiwanese media that Jeju Island is becoming a Chinese island. The article titled 'Is Jeju Island Becoming a Chinese Island? South Korea Busy with Aftermath' was published in Liberty Times, one of Taiwan's top three daily newspapers. The Liberty Times first pointed out that Jeju Island quickly became a popular travel destination for Chinese tourists after 2008, when Chinese citizens were allowed to stay on the island for 30 days without a visa. The newspaper noted that out of 1.726 million foreign tourists, 1.08 million were Chinese, highlighting that Chinese tourists still make up a significant portion of foreign visitors to Jeju. The media outlet further pointed out that the reason Chinese people are competing to invest is because the threshold for investment immigration in South Korea is much lower compared to other countries. The Liberty Times reported that through investment immigration, Chinese citizens can enjoy the same educational and medical insurance benefits as Koreans after a certain period, and noted that the disproportionate number of Chinese residents, exceeding 70% among foreigners who settled after the policy's implementation, is raising concerns.

31) *MBC News*, ""'중국섬' 된 제주도, 韓 뭐하나" 대만 언론 '섬뜩한 경고'," 2024년 6월 23일, https://www.youtube.com/watch?v=LMPyIUtH2sM (검색일: 2025년 1월 26일).

32) *SBS News*, "제주도, 중국 섬 되나?...중국인 소유 땅, 서울 중구 크기와 맞먹어," 2024년 6월 28일, https://www.youtube.com/watch?v=FlVtz1x9KjY (검색일: 2025년 1월 26일).

33) *KBS News*, "제주에 쏟아져 들어온 중국 자본, 10년간 제주를 어떻게 바꿔놨나? ," 2024년 6월 15일, https://www.youtube.com/watch?v=0z9uZmYDa2I&t=1s (검색일: 2025년 1월 26일).

34) *YTN*, ""제주, 중국 섬으로 변하는 중"... 제주도 이례적 해명 나선 외신 보도," 2024년 6월 25일, https://www.youtube.com/watch?v=bWJLd_Wj4KI&t=1s (검색일: 2025년 1월 26일).

The decision to use this video was also informed by a fact-check conducted by SNUFactCheck, Korea's first and only fact-checking platform, operated by Seoul National University. SNUFactCheck[35] screened the video as misinformation, noting discrepancies between the original Taiwanese article and the version circulated in Korean media.[36] The original article, published in Taiwan's Liberty Times, discussed the Korean government's efforts to address unfinished construction projects resulting from stalled investments by Chinese developers.[37] The article's headline from Taiwan's Liberty Times, when translated, conveyed the idea that the Korean government was "busy managing abandoned construction projects." However, certain Korean media outlets misinterpreted and mistranslated this to suggest that Jeju was actively becoming a "Chinese island," a claim that was not supported by the original Taiwanese article.

As shown in 〈Table 1〉, our survey experiment leverages this content to investigate how social popularity cues shape Korean teens' perceived reliability of the content and their attitudes toward China. Both groups are shown a news clip containing the content above, accompanied by a one-sentence introduction summarizing the key message. Group A sees a version of the video with few likes and few comments, which we edited from the original numbers to prime low popularity. In contrast, Group B views the original version, which displays a high number of likes (19,000) and over 4,000 comments. Group B is provided with an extra sentence emphasizing the video's popularity: "This video has gained over 19,000 likes so far, drawing significant public attention and

35) Unfortunately, due to the closure of SNUFactCheck, it is impossible to refer to its first classification.

36) *JTBC News*, "제주도가 중국 섬으로 변하고 있다?," 2024년 6월 25일, https://mnews.jtbc.co.kr/article/NB12202589?influxDiv=JTBC (검색일: 2025년 1월 26일).

37) *自由財經*, "LTN經濟通》濟州島變中國島？南韓政府忙收爛尾," 2024년 6월 19일, https://ec.ltn.com.tw/article/breakingnews/4705369 (검색일: 2025년 1월 26일).

spreading through various media platforms, including newspaper articles, YouTube, Instagram, and TV broadcasts."

After watching one of the randomly assigned videos, participants were asked to complete a questionnaire to assess several key dependent variables. The survey was designed to prevent participants from revisiting and altering their answers after submitting each question. At the conclusion of the survey, a debriefing statement was provided, clarifying that certain interface elements were modified for academic research purposes, and it included the title and URL of the original video to avoid any potential confusion among participants.

<Table 1> Survey Design

	Low Popularity Cue Group (Group A)	High Popularity Cue Group (Group B)
Content		
Common Information	This video, titled "*Jeju Island Becoming a 'Chinese Island,' What is South Korea Doing? Critical Warning from Taiwanese Media*" was reported by MBC News last June, pointing out Taiwanese media's warning about Chinese tourists in Jeju and the lack of response from the South Korean government.	
Extra information For Group B	The video, criticizing Chinese people and the Korean government's role, has garnered over 19,000 likes, attracting significant public attention and circulating across various media platforms, including newspaper articles, YouTube, Instagram, and TV broadcasts.	
Sample	250	250

3. Dependent Variables

In line with the hypotheses, the study employed several dependent variables – reliability (H1), accuracy (H1), engagement (like likelihood, H2), and perceptions of China and the Korean government (H3). For reliability, participants were asked to rate how reliable they believe the information in the video is, using a Likert scale where 1 indicates strong disagreement (not reliable) and 4 indicates strong agreement (very reliable). Accuracy assessed whether participants believe the information presented is accurate. Engagement (like likelihood) examined participants' behavioural engagement with the content, indicating how willing they are to actively endorse it by liking it. We expect all three scores to be higher in Group B (High Popularity Cue Group) than in Group A (Low Popularity Cue Group). Lastly, the study measured participants' attitude towards China and the Korean government. These perceptions were rated on a scale from 1 (very negative) to 4 (very positive). Given the negative portrayal of both Chinese nationals and the Korean government in the video, we expect these scores to be lower in Group B, where stronger bandwagoning effects are anticipated, compared to Group A.

<Table 2> Dependent Variables

Question	Variable	Measurement
How reliable do you think the information in this video is?	Reliability (H1)	1 (Strongly disagree) - 4 (Strongly agree); Likert Scale
Do you think this video provides accurate information?	Accuracy (H1)	
How likely are you to leave a "like" this video?	Like likelihood (H2)	
After watching this video, what is your perception of China?	China Perception (H3)	1 (Strongly negative) - 4 (Strongly positive); Likert Scale
After watching this video, what is your perception of the Korean government?	Korean Government Perception (H3)	

4. Independent and Control Variables

The key variable of interest in this study is group assignment. As discussed above, participants were randomly divided into two groups: Group A (Low Popularity Cues) and Group B (High Popularity Cues). In Section IV, we report the difference in means of the dependent variables by group and conduct a regression analysis with group assignment as the independent variable.

The study also included several control variables. First, school type was included because the type of school students attend might independently influence their perceptions of online content, potentially due to the varying educational environments and focus areas across school types. To see how different age affect the influence of the social media content, Age was included as control variable. Gender (Female) was included to assess whether gender-related differences exist in students' evaluations of content reliability, accuracy, and engagement, as well as in their attitudes toward political issues towards China and the Korean government. The Media Literacy Education variable measured students' exposure to media literacy activities in school (see 〈Table 3〉). Responses for both items were recorded on a Likert scale from 1 (less experience in media literacy education) to 4 (more experience in media literacy education). Reflecting the generally low level of media literacy education in Korea, our sample included only 31 participants who self-reported receiving media literacy education. While this number was too small to explore heterogeneous treatment effects based on media literacy education, we still included it as a control variable.

<Table 3> Questions on Media Literacy Education

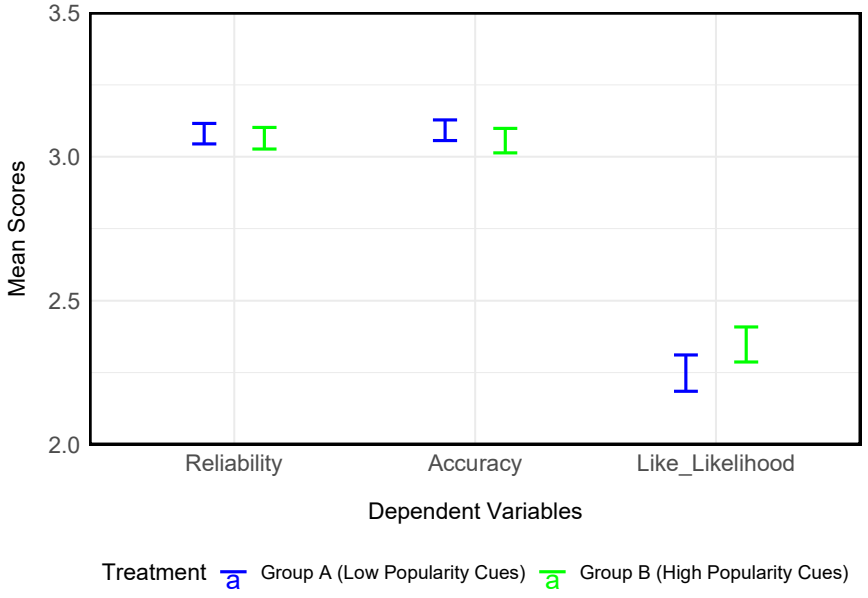
Question	Variable	Measurement
Have you ever had any activities about how to detect whether the information is subjective or biased in school?	Media Literacy Education	1 (Strongly disagree) – 4 (Strongly agree); Likert Scale
Have you ever had any activities about how to detect whether the information is fake in school?		

Ⅳ. Results

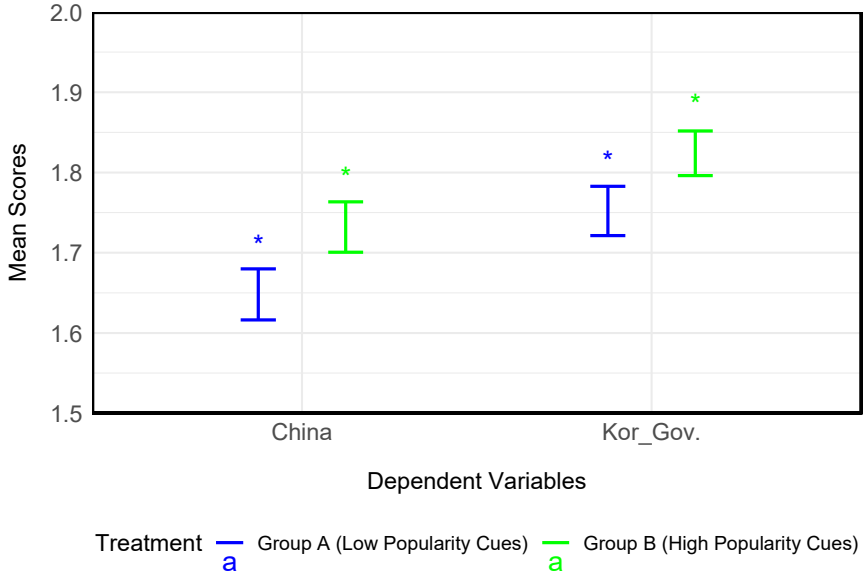
First, 〈Figure 1〉 below presents a comparison of mean scores across three dependent variables, Reliability, Accuracy, Like Likelihood, between Group A and Group B. The length of the vertical bars represents 95% confidence intervals. For Reliability and Accuracy, the results show minimal differences between the two groups, providing no evidence for Hypothesis 1. It appears that students in this study may not associate the popularity of a video with its trustworthiness. Similarly, Like Likelihood shows only a slight, statistically insignificant difference between the two groups. This suggests that high social popularity cues do not significantly impact students' willingness to engage with the video. This contradicts Hypothesis 2.

Turning to Hypothesis 3, Figure 2 reveals significant between-group differences in attitudes toward China and the Korean government. However, contrary to our expectations, Group B (High Popularity Cue Group) reported *higher* mean scores than Group A (Low Popularity Cue Group). In other words, students in Group B, whom we expected to bandwagon with the video's negative portrayal of China and the Korean government, instead expressed more *positive* attitudes toward both compared to those in Group A.

<Figure 1> Comparison of Group Means for Reliability, Accuracy, and Like Likelihood



<Figure 2> Comparison of Group Means for China and Korean Government Perception



〈Table 4〉 summarizes the regression analysis results which allow us to more accurately estimate the treatment effect by controlling for potential confounding factors. The Group variable does not show a statistically significant effect on Reliability, Accuracy, or Like Likelihood (Models 1-3). However, the coefficient estimate for Group B in the China Perception model is statistically significant (p-value 〈 0.05; Model 4), indicating that participants in Group B hold more favorable attitudes toward China than those in Group A. The treatment effect on Korean government perception is also statistically significant (p-value 〈 0.10; Model 5), suggesting a more positive evaluation of the Korean government among Group B.

<Table 4> Main Dependent Variable Models

	(1)	(2)	(3)	(4)	(5)
DV:	Reliability	Accuracy	Like Likelihood	China Perception	Korean Gov. perception
Group B	-0.022 (0.052)	-0.041 (0.056)	0.067 (0.085)	0.088** (0.045)	0.074* (0.042)
Female	-0.097* (0.053)	-0.095* (0.057)	-0.384*** (0.088)	0.059 (0.046)	0.059 (0.043)
Age	-0.041 (0.038)	-0.099* (0.041)	-0.102 (0.063)	-0.039 (0.018)	-0.027 (0.016)
General High School	0.075 (0.106)	0.196* (0.114)	0.203 (0.175)	0.030 (0.092)	-0.161* (0.085)
Specialized High School	-0.012 (0.118)	0.049 (0.127)	0.180 (0.195)	0.034 (0.102)	-0.042 (0.095)
Media Literacy	0.008 (0.016)	0.012 (0.017)	0.093*** (0.026)	-0.017 (0.014)	-0.002 (0.013)
Observation	500	500	500	500	500

Standard errors in parentheses; *** p〈0.01, ** p〈0.05, * p〈0.1

As for control variables, gender has significant effects on several dependent variables. Regardless of the group assignment, female

students evaluated the content to be of lower Reliability and lower Accuracy and were less likely to engage with the content. Age has a negative effect on Accuracy, suggesting that older students tend to view the content as less accurate. On the other hand, Age is negatively associated with China Perception, indicating that older students have more negative attitudes toward China compared to younger students. Also, Media Literacy does not show a significant effect on students' perceptions of reliability, accuracy, or their political attitudes. However, Media Literacy shows a strong positive effect on Like Likelihood, indicating that students who have received media literacy education are more likely to engage with content by liking it.

We also examine whether our treatment effect varies by gender and age group. To explore gender-varying effects, we interact the Group variable with Female. We find that the counterintuitive positive effect of the high popularity cues on the Korean Gov. Perception variable is driven by boys (Model 9). We find no significant interaction effects in other models. The results are reported in Appendix Table C. To examine the heterogeneous treatment effect between older and younger students, we interact the Group variable with age. The results are reported in Appendix Table D. We find that high popularity cues increase content reliability for younger students, while the effect is insignificant and potentially negative for older students (Model 10). The age at which the effect is null is estimated to be around 15.6 years. In other words, our Hypothesis 1 is partially supported among younger students. On the other hand, the unexpected positive effect of the high popularity cues on the China Perception variable is also stronger among younger students (Model 13).

Overall, all our theoretical expectations are rejected, except for the treatment effect on the Reliability variable among students younger than 15.6. Taken together, the results suggest that popularity cues, such as

the number of likes and comments, do not lead to a general increase in the credibility of content or the likelihood of engagement. Furthermore, when it comes to shaping teenagers' social attitudes, in our case their perceptions of China and the Korean government, popularity cues do not seem to reinforce bandwagon effects. Instead, they seem to have the opposite effect, making teens less negative toward both China and the Korean government. We discuss this counterintuitive finding further in Section V.

V. Discussion and Conclusion

Our findings together suggest that exposure to high popularity cues (the number of likes and comments) did not significantly alter students' perceptions of content reliability, nor did it significantly affect their likelihood of engaging with the content. These cues did have an impact on opinions about politically sensitive topics, such as attitudes toward China and the Korean government. Interestingly, however, popularity cues do not appear to reinforce bandwagon effects for such attitudes. Rather, they seem to have the opposite effect, making adolescents less negative toward both China and the Korean government.

What might explain these unexpected results? One speculation is that teens are as susceptible to the "snob effect" as they are to the bandwagon effect.[38] Snob effect indicates a phenomenon, where the demand for a product decreases as more people consume it or as others increase their consumption of it. This effect arises from individuals' desire to stand out, be unique, or distance themselves from the "common herd"

38) Harvey Leibenstein, "Bandwagon, Snob, and Veblen Effects in the Theory of Consumers' Demand," *The Quarterly Journal of Economics*, Vol. 64, No. 2 (1950), pp.183-207.

or "mob mentality."[39] Existing research reports, for example, that a high number of retweets about an organization leads to the lowest level of perceived trust in the organization, suggesting that a high level of public engagement or endorsement of an issue may cause viewers to respond in a hesitant manner, which may ultimately backfire.[40]

We thus speculate that the co-existence of the snob effect and bandwagon effect can help explain why teens exposed to high popularity cues were no more likely to endorse the reliability of the content or engage with the video. While some teens likely embraced the popular message, as predicted by the bandwagon effect literature, others may have resisted the dominant sentiment. These opposing responses could have offset each other, resulting in null findings for our Hypotheses 1 and 2. Also, even those who found the message credible might have been hesitant to adjust their personal views, as doing so could have been perceived as simply following the crowd and becoming part of the mob. This could explain the outcomes contrary to Hypothesis 3, where teens who saw high popularity cues on anti-Chinese news content exhibited less negative opinion towards China compared to those who did not see such cues.

Relatedly, the observation of the snob effect in our case might be attributed to our choice of the outgroup, the Chinese, which is a relatively more familiar outgroup even to teens in Korea. Indeed, the share of the foreign population is 5.4% as of 2024, and 36.2% of those are Chinese (including Korean Chinese), indicating that close to 2% of Korean residents are Chinese nationals.[41] Thus, while we assumed the

39) Ibid., pp. 199-205.

40) Xialing Lin and Patric R. Spence, "Others Share this Message, So We Can Trust It? An Examination of Bandwagon Cues on Organizational Trust in Risk," *Information Processing & Management*, Vol. 56, No. 4 (2019), pp. 1559-1564.

41) 법무부, "출입국 통계," https://www.moj.go.kr/moj/2412/subview.do (검색일: 2025년 5월 18일).

information we provided (Chinese investment in Jeju Island) would be new to most teens, many of them might already have been exposed to similar anti-Chinese narratives. This might have led the participants to interpret the content as part of the mainstream narrative, triggering a snob effect rather than a bandwagon effect.

Another possibility, distinct from the snob effect, is the limited internal validity of the content we provided. While the content contains explicitly negative wording and tone, such as the phrase "a warning has been issued" and references to Jeju Island becoming a "Chinese island," it may not have been perceived as clearly anti-Chinese. Instead, it might have triggered positive reactions among some teens. For instance, teens with a liberal, cosmopolitan value orientation who support an open economy and market competition might view increased Chinese investment in Jeju and Chinese ownership of local economic assets as a positive contribution to Korea's economy.

While our survey data do not allow for a rigorous plausibility test of these potential explanations, we believe our findings nevertheless contribute to a growing literature that challenges the assumption that simple and highly visible popularity cues, such as likes, uniformly enhance content credibility and induce bandwagoning behavior. Even in a context where susceptibility to social cues is expected to be high, such as among Korean adolescents, the observed effects of these cues were mixed. This highlights the importance of examining their nuanced roles in shaping public opinion.

Looking ahead, future research should more systematically theorize and empirically investigate the determinants of the snob effect and the bandwagon effect. What individual-level or societal-level characteristics make individuals or the public, as a collective entity, more susceptible to the bandwagon and snob effects, respectively? Additionally, what types of social cues are more effective in generating the bandwagon

effect as opposed to the snob effect, and vice versa? Our findings lead us to speculate that the relative influence of the snob and bandwagon effects may systematically vary depending on individuals' familiarity with an issue and their underlying predispositions. If so, unfamiliar outgroups may be more susceptible to bandwagon-driven xenophobia than more familiar ones. This highlights the importance of multicultural education programs that expand students' knowledge of and engagement with a broader range of outgroups beyond Chinese or other Asian migrants. Such exposure, combined with the cultivation of more cosmopolitan value orientations, could help reduce students' reliance on popularity cues when evaluating content about outgroups.

Finally, our study offers practical implications for Korean educators and school administrators, who have increasingly prioritized IT and digital media literacy. We suggest that integrating IT literacy education with lessons on social integration and multiculturalism could be particularly effective. This combined approach may help students better understand how digital content and cognitive biases shape public attitudes, especially toward outgroups. In doing so, it can foster youth who are not only technically proficient, but also socially responsible and ethically conscious.

[Appendices]

Table A. Sample Characteristics by Group

Characteristics	Group	
	Few Likes Group, n (%)	Many Likes Group, n (%)
Gender		
Male	111 (44.4%)	89 (35.6%)
Female	139 (55.6%)	161 (64.4%)
Total	250 (100.0%)	250 (100.0%)
Age		
14 years old	42 (16.8%)	39 (15.6%)
15 years old	83 (33.2%)	86 (34.4%)
16 years old	40 (16.0%)	44 (17.6%)
17 years old	44 (17.6%)	38 (15.2%)
18 years old	41 (16.4%)	43 (17.2%)
Total	250 (100.0%)	250 (100.0%)
Location		
Seoul	52 (20.8%)	49 (19.6%)
Busan	13 (5.2%)	17 (6.8%)
Daegu	8 (3.2%)	5 (2.0%)
Incheon	9 (3.6%)	13 (5.2%)
Gwangju	14 (5.6%)	7 (2.8%)
Daejeon	7 (2.8%)	8 (3.2%)
Ulsan	3 (1.2%)	9 (3.6%)
Sejong city	6 (2.4%)	1 (0.4%)
Gyeonggi-do	61 (24.4%)	69 (27.6%)
Gangwon-do	7 (2.8%)	4 (1.6%)
Chungcheongbuk-do	9 (3.6%)	7 (2.8%)
Chungcheongnam-do	13 (5.2%)	9 (3.6%)
Jeollabuk-do	9 (3.6%)	9 (3.6%)
Jeollanam-do	6 (2.4%)	8 (3.2%)
Gyeongsangbuk-do	13 (5.2%)	17 (6.8%)
Gyeongsangnam-do	14 (5.6%)	17 (6.8%)
Jeju	6 (2.4%)	1 (0.4%)
Total	250 (100.0%)	250 (100.0%)

Table B. Descriptive Statistics by Group: Dependent Variables

Variables	Group					
	Few likes group (n=250)			Many likes group (n=250)		
	Mean	Std. Dev.	Median	Mean	Std. Dev.	Median
Reliability	3.080	0.561	3	3.064	0.591	3
Accuracy	3.092	0.569	3	3.056	0.674	3
Liking likelihood	2.248	0.999	2	2.348	0.962	2
China perception	1.648	0.503	2	1.732	0.495	2
Korean government perception	1.752	0.485	2	1.824	0.440	2

Table C. Heterogeneous Treatment Effect by Gender

	(5)	(6)	(7)	(8)	(9)
DV:	Reliability	Accuracy	Like Likelihood	China Perception	Korean Gov. Perception
Group B	0.095 (0.177)	0.204 (0.190)	-0.074 (0.292)	0.022 (0.154)	0.292** (0.142)
Female	-0.059 (0.076)	-0.015 (0.082)	-0.429*** (0.126)	0.038 (0.066)	0.129** (0.061)
Age	-0.041 (0.038)	-0.098** (0.041)	-0.102 (0.063)	-0.039 (0.033)	0.028 (0.031)
General High School	0.073 (0.106)	0.192* (0.114)	0.206 (0.175)	0.031 (0.092)	-0.165* (0.085)
Specialized High School	-0.013 (0.118)	0.047 (0.127)	0.180 (0.195)	0.034 (0.102)	-0.044 (0.094)
Media Literacy	0.008 (0.016)	0.012 (0.017)	0.093*** (0.026)	-0.017 (0.014)	-0.001 (0.013)
Group B x Female	-0.074 (0.106)	-0.153 (0.113)	0.088 (0.174)	0.042 (0.092)	-0.136 (0.085)
Observation	500	500	500	500	500

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table D. Heterogeneous Treatment Effect by Age

	(10)	(11)	(12)	(13)	(14)
DV:	Reliability	Accuracy	Like Likelihood	China Perception	Korean Gov. Perception
Group B	1.215**	0.939	-0.703	0.992*	0.198
	(0.609)	(0.657)	(1.010)	(0.530)	(0.492)
Female	-0.097*	-0.095*	-0.384***	0.059	0.059
	(0.053)	(0.057)	(0.088)	(0.046)	(0.043)
Age	-0.001	-0.067	-0.127*	-0.010	0.031 (
	(0.043)	(0.046)	(0.071)	(0.037)	0.035)
General High School	0.070	0.193*	0.206	0.027	-0.162*
	(0.105)	(0.114)	(0.175)	(0.092)	(0.085)
Specialized High School	-0.004	0.055	0.175	0.040	-0.042
	(0.117)	(0.127)	(0.195)	(0.102)	(0.095)
Media Literacy	0.008	0.012	0.093***	-0.017	-0.002
	(0.016)	(0.017)	(0.026)	(0.014)	(0.013)
Group B x Age	-0.078**	-0.062	0.049	-0.057*	-0.008
	(0.038)	(0.041)	(0.064)	(0.033)	(0.031)
Observation	500	500	500	500	500

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

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[국문초록]

온라인 사회적 인기 지표가 한국 청소년의 외집단 인식에 미치는 영향 탐색

최예나 | 고려대학교 국제대학원 석사졸업
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밴드왜건 효과, 즉 널리 받아들여지는 견해를 따르는 경향은 좋아요, 조회수, 댓글과 같은 사회적 인기 지표를 통해 소셜 미디어에서 더욱 증폭된다. 아직 다양한 사회 이슈에 익숙하지 않고 또래집단 소속감과 타인의 인정을 원하는 10대 청소년은 이러한 지표의 영향을 더 크게 받을 수 있다. 본 연구는 한국 10대 청소년(14~18세)이 외집단을 부정적으로 묘사하는 디지털 뉴스 콘텐츠의 인기 지표에 어떻게 반응하는지를 살펴보았다. 설문실험 참가자들에게 한국 내 중국인을 부정적으로 표현한 동일한 뉴스 콘텐츠를 제공하되, 인기 지표('좋아요' 수 및 댓글 수)를 조작하여 일부 참가자에게 높은 인기 지표를 무작위로 노출하였다. 이후 참가자들에게 해당 콘텐츠의 신뢰도 평가, '좋아요' 클릭 의향, 중국에 대한 태도 등에 관한 설문을 실시하였다. 분석 결과, 인기 지표는 콘텐츠 신뢰도나 '좋아요' 클릭 의향에는 유의미한 영향을 미치지 않았지만, 중국에 대한 태도에서 유의미한 차이가 관찰되었다. 흥미롭게도, 본 연구의 가설과는 반대로, 높은 인기 지표에 노출된 청소년들은 중국에 대해 상대적으로 더 긍정적인 태도를 보였는데, 본 연구는 이에 대하여 스놉 효과(snob effect)를 포함한 몇 가지 해석을 제시한다. 본 연구의 결과는 온라인 매체를 통한 외집단에 대한 태도 형성 과정에서 인기 지표가 가지는 복합적인 역할을 더욱 깊이 있게 탐구해야 함을 시사한다.

주제어: 밴드왜건 효과, 사회적 인기 지표, 디지털 미디어, 한국 청소년, 대중국인식

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