

# *Analyzing the Impact of Integration on Climate Change Knowledge among Young People*

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**Abstract:** There is a significant climate change on the Earth, which is characterized by global warming. The State of the Global Climate 2020 report was made public by the World Meteorological Organization (WMO). The research emphasized the impact of the change on economic and social development, migration and displacement, food security, and marine and terrestrial ecosystems. Thus, it documents changes in several climate system indicators, such as carbon dioxide concentrations, rising atmospheric and oceanic temperatures, sea level rise, glacier retreats, and weather extremes. Global climate change is profoundly affecting people's lives, and whether people know about this, especially as the new era of the main force - the youth. Through the use of the cognitive mediation model, this study investigated the influencing elements of climate change knowledge among young people. Essentially, by concentrating on various media platforms, this study added to the body of knowledge regarding the Cognitive Mediation Model (CMM). The data that this research used was from a questionnaire survey of 591 Chinese youth (ranging from 15 to 24 years old). This study discovered that paying attention to news on TV, sites, and social media sparked in-person conversation and elaboration of the news. The focus on print, however, has nothing to do with news reports or interpersonal discussions. This study also discovered that while interpersonal conversation increases perceived familiarity, news elaboration increases factual knowledge, such as general scientific understanding. The paper discussed both practical and theoretical aspects.

**Keywords:** Cognitive mediation model, climate change, media attention

## 1. Introduction

### 1.1. Research Background

Many regions of the world have been impacted by climate change in recent years. Ultra-weather and disastrous weather, like floods, fires, and droughts, are common, and topics like sea-level rise and the consequences of climate change on biodiversity have attracted prominence.

The State of the Global Climate 2020 report was made public by the World Meteorological Organization (WMO). The report highlights the effects of these changes on the development of economic growth and living conditions, migration and dislocation, food security, and land and marine ecology while documenting changes in a number of climate system indicators, such as greenhouse gas concentrations, soaring oceanic and terrestrial temperatures, rising sea levels, glacier retreat, and

extreme weather. Theoretically, by emphasizing various media platforms, this investigation will add to the body of existing literature on the Cognitive Mediation Model (CMM). Since the Fifth Assessment Report (AR5), experts have observed that an increasing number of extreme changes due to human influence (such as heat waves, heavy precipitation, droughts, and tropical cyclones) have been confirmed. The international community has given top priority to the challenge posed by climate change, which is having a profound impact on people's living environment.

The 26th United Nations Climate Change Conference (COP26), which held in Glasgow in early November [1]. COP26 will be the most significant and most important climate change conference since the Paris Agreement in 2015. It is noteworthy that at this meeting, youth groups have played a key role in setting the global climate change agenda, viewpoint debate, value attitude, and the influence of public opinion plays an extremely positive and vital role. China Youth Climate Change Action Network initiated and organized the first ever COP China Youth Delegation before the United Nations Climate Change Conference in Copenhagen in 2009 [2]. At every UN Climate Change Conference since Copenhagen, the China Youth Climate Change Action Network has led nearly 150 outstanding green youth from China to this UN platform. These young people have become talents in the fields of climate change, environmental protection, and sustainable development. According to the Main results of the 2018 Chinese Citizen Science Literacy Survey. It reported that only 8.47% of the citizens have scientific quality, and the existing research has explored that young people in climate change awareness has advantages and plays a vital role in transmission [3, 4]. However, due to the development of social media and the enhanced ability of rapid information dissemination, young people are increasingly dependent on mobile phones. Their cognitive degree of climate change is constantly changing, and their mental ways are also updated. This exploration explored youth cognition of climate change and the influence of media communication on youth cognition of climate change through a theoretical basis and questionnaire survey.

## 1.2. Research Gap

This exploration uses the cognitive mediation model, the exploration results of domestic scholars are relatively few, which were mainly concentrated in health communication, environmental communication, political communication, and other fields. By using the CMM, this exploration aims to check into the absorption of climate change and its cognitive pathways among young people. Specifically, this paper sought to understand the role of the media in raising awareness of climate change among youth groups. There are two questions that this study wants to explore: RQ1: Among the attention paid to paper newspapers, television news, news sites, and news in social media, which media consideration has the most substantial relationship with news elaboration? RQ2: Among print newspapers, television news, news sites, and social media news, which media focus is most strongly associated with the interpersonal discussion?

## 1.3. Fill the Gap

Three research aims are to be implemented in this study. First, by using the CMM in the context of climate change, this study aims to rethink the model. By studying how the attention of various news sources, such as television news, print newspapers, news websites, and social media news, affects perceptions of climate change among adolescent groups in public, this study seeks to further the CMM. This study sought to identify how other cognitive processes, such as news exposition and interpersonal discussion, mediate the relationship between the two because the Cognitive Mediation Model (CMM) has performed well in various exploration contexts, particularly the relationship between surveillance motivation and news consideration. news coverage in various media (print

newspapers, TV news, websites, social media news) and diverse knowledge magnitude. So the research assumes that information is learned and motivated by individuals.

## **2. Literature Review**

### **2.1. Definition & Development**

Eveland believed that different motives would urge individuals to pay attention to news information and actively process it 2001. News attention, in turn, affects the number of knowledge individuals acquire from the media through two channels: (a) immediate access to knowledge and (b) not direct access to knowledge, mediated by news exposition.

Eveland believes that personal motivation will affect their attention to and processing of news information, and how such information changes knowledge acquisition. The cognitive mediation model was first applied to the analysis of political news learning by Evan Lander. In subsequent studies, the cognitive mediation model has been used in other fields. Edmund W.J. Lee made the enhanced Cognitive Mediation model after a visit to Singapore women's knowledge of breast cancer Model, which combines the audience's perception of certain risks as a driving factor for information seeking with the cognitive mediation Model in 2016 [5]. They found that Singaporean women's risk perceptions were positively influenced by breast cancer, the leading generates of death among women worldwide.

Due to their attention to newspapers, television, the Internet, and other media, however, due to factors such as Singapore's social and cultural background, It is found that the connection of traditional media such as newspapers and television will arouse the audience's related thinking and increase the audience's relevant knowledge. Hio extended the cognitive mediation model by applying it to attention. In the social media environment with scientific literacy, it finds that people with high monitoring satisfaction and social utility motivation (the motivation to seek information to participate in dialogue) are more inclined to pay attention to the scientific news on social media and engage in relevant thinking [6].

### **2.2. Important Results**

Zhou Baohua of Fudan University introduced this model early, translated it into the "cognitive mediating model" in 2008, and gave a brief explanation [7]. Luo Wenhui, the Chinese University of Hong Kong, Wei Ran, from The University Of south Carolina and Su Heng, from China Taiwan politics university, using the cognitive mediation model 2013, discuss the self-efficacy and information processing strategies for health knowledge, the influence of self-efficacy, media use factors such as motivation, news attention during the 2009 pandemic crisis to get the effect of swine flu knowledge [8]. Yang Sijia first translated the modified model into the "cognitive mediation model" in 2013 [9]. Zhang Yang of the Renmin University of China cited the 2013 public emergency "Beijing Smog in 2014. For example, this paper combines the effect of media framework with the cognitive mediation model. It takes video interactive media as an independent variable to explore its influence on responsibility attribution and knowledge reception [10]. Zhu Tianze from Wuhan University made a deep analysis of the communication effect of current political data news based on the cognitive mediation model and combined with the double coding theory in cognitive psychology, and examined the communication effect of graphs and text in current political data news as a whole [11]. Therefore, the correlation between network news media consideration and knowledge acquisition is worthy of further study.

## 2.3. Summary

People frequently concentrate on news that may be conveniently accessed via social media [12]. As a result, it is worthwhile to study. Which attention from the media among that given to print newspapers, television news, news sites, and news in social media has the most significant connection to news elaboration? Based on the above arguments, this study proposes the following hypotheses:

H1: Focus on (a paper newspaper, (b television press, (c news site, (d social media news and news elaboration are positively correlated.

H2: Focus on the fact that news in (a print newspapers, (b television press, (c news sites, (d social media is positively related to the discussion of interpersonal relationship.

## 3. Method

### 3.1. Research Design

This study wanted to complete this exploration by distributing questionnaires, for which this paper designed 17 questions, including questions about news elaboration, perceived familiarity, and knowledge related to climate change. The scale is derived from Thinking, not talking, predicts knowledge level: Effects of media attention and reflective integration on public knowledge of nuclear energy. This paper will directly distribute the questionnaire to WeChat friends, QQ friends, and WeChat moments, and everyone will fill in the questionnaire online. The results of this questionnaire will be kept confidential, and the minors have answered the questionnaire with the consent of their guardians.

### 3.2. Data Collection

This paper set the delivery time of the questionnaire as two days, sent it online, and then collected the questionnaire online for data sorting and analysis. This study collected the consequence of a group questionnaire survey of 591 Chinese youth, using the data from WeChat friends, QQ friends, and WeChat Moments.

### 3.3. Data Analysis

#### 3.3.1. Variable Declaration

"News elaboration" consists of three things according to a mean of 10.91 (out of 15) and a standard deviation of 2.968. "Perceived familiarity" consists of three items according to a mean of 11.16 and a standard deviation of 2.765. "Discussion of interpersonal relationships" includes four objects according to a mean of 13.82 and a standard deviation of 3.918. The norm of "gender" is 1.53, of which "girls" account for 47.4% and "boys" account for 52.6%. The average value of "educational level" is 3.47, of which "undergraduate" accounted for the highest proportion of 56.51%, followed by "high school" accounted for 18.78%.

The average value of "majors" is 1.98, of which "non-environmental natural sciences" account for the highest proportion of 63.79%. The mean of "Often live in urban or rural areas" was 1.17, of which "urban" accounted for 82.91%, and "rural" accounted for 17.09%. "Interest in print newspapers" includes four objects according to a mean of 12.72 and a standard deviation of 5.097. "Attention to TV news" has four items according to a mean of 14.35 and a standard deviation of 4.079. "Interest in news sites" contains four items according to a mean of 14.77 and a standard deviation of 3.974. "Attention to social media news" contains four objects according to a mean of 15.28 and a standard deviation of 3.644 (Table 1).

Table 1: Variable Description.

Question	Variable
1. What is your gender?	gender
2. What is your education level?	educational level
3. What is your major?	majors
4. Do you often live in urban or rural areas?	Often live in urban or rural areas
5. Are you interested in print newspapers?	Interest in print newspapers
6. Do you pay attention to the news?	Attention to TV news
7. Do you pay attention to news sites?	Interest in news sites
8. Do you pay attention to social media news?	Attention to social media news
	News elaboration
	perceived familiarity
	discussion of interpersonal relationships

### 3.3.2. Descriptive Analysis

The correlation coefficient between “Interest in print newspapers” and “News elaboration” is 0.533, and the P-value of the correlation coefficient test is lower than 0.05, so there is a remarkable positive correlation between “Interest in print newspapers” and “News elaboration.” The correlation coefficient between “Attention to TV news” and “News elaboration” is 0.646, and if the P-value of the correlation coefficient test is less than 0.05, so “Attention to TV press” and “News elaboration” have a significant positive correlation (Table 2).

Table 2: Descriptive Statistics.

	Mean	Std. Deviation
News elaboration	10.91	2.968
perceived familiarity	11.16	2.765
discussion of interpersonal relationships	13.82	3.918
gender	1.53	0.500
educational level	3.47	0.936
majors	1.98	0.602
Often live in urban or rural areas	1.17	0.377
Interest in print newspapers	12.72	5.097
Attention to TV news	14.35	4.079
Interest in news sites	14.77	3.974
Attention to social media news	15.28	3.644

The correlation coefficient between “Interest in news sites” and “News elaboration” is 0.593, and if the P-value of the correlation coefficient test is less than 0.05, then "Interest in news sites" and “News elaboration” have a significant positive correlation. The correlation coefficient between “Attention to social media news” and “News elaboration” is 0.550, and if the P-value of the correlation coefficient test is less than 0.05, then “Consideration to social media news” and “News elaboration” have a significant positive correlation.

### 3.3.3. Regression Analysis

RQ1: Among the attention paid to paper newspapers, television news, news websites, and news in social media, which media consideration has the most vital connection with news elaboration? From

the t-test of the regression coefficients can see that “Interest in print newspapers,” “Attention to TV press,” “Interest in news sites,” “Attention to social media news” all have a significant positive impact on “News elaboration.” Looking at the absolute value of the normalization coefficient, “Attention to TV news” has the most significant effect on “News elaboration,” followed by “Attention to social media news,” then “Interest in press sites,” and finally “Interest in print newspapers” (Table 3)

Table 3: Regression Analysis.

variables	Unstandardized Coefficients	Standardized Coefficients
Block1: control variable		
gender	-0.220	-0.037
educational level	0.352*	0.111
majors	-0.636**	-0.129
Often live in urban or rural areas	0.536	0.068
R <sup>2</sup> (%)	4.5	
Block2: independent variable		
Interest in print newspapers	0.084**	0.144
Attention to TV news	0.238**	0.328
Interest in news sites	0.122**	0.164
Attention to social media news	0.156**	0.192
Incremental R <sup>2</sup> (%)	46.2	
Total R <sup>2</sup> (%)	50.7	

#### 4. Results

These tidings suggest that news noticed on various media channels may be concerned with diverse levels of news exposition. Cohere with the Cognitive Mediation Model (CMM) model, the consequences show that concentrate on television news is connected with news exposition.

There is a positive correlation. This paper found that attention to the newspaper had nothing to do with exposition. Given respondents' low attention ratings for newspaper items, the most significant connection between newspaper attention and news exposition is to be expected. A low average score suggests that most youth groups may be less engaged in climate change news.

#### 5. Discussion

The study's findings can help policymakers and communication professionals decide which media outlets are best for disseminating information about nuclear energy. In order to educate the public about climate change, science communicators can use social media platforms, news websites, and television news channels. Additionally, this study contends that interpersonal interactions have no bearing on factual knowledge and simply serve to promote perceived familiarity. Therefore, communication professionals can design communication environments, just like interview, and debate, where the public can absorb in deeper, more thought-intensive conversations.

#### 6. Conclusion

Additionally, due to the rapid development of media, the majority of youth organizations are switching from traditional print newspapers to online news sources, causing them to pay less attention to stories about climate change in traditional newspapers. These results suggest that news elaboration is more common among those who follow online news sources like websites and social media. In a similar vein, the study discovered that, with the exception of attention to print newspapers, exposure



to various news medium predicts interpersonal discussion. This study discovered that concentration across media channels can encourage interpersonal conversations between people, which is consistent with the CMM.

This study found that attention to news media enables individuals to receive more news. This study also found that attention to it is positively correlated with news elaboration, advising that people who pay attention to media channels can act as opinion leaders and spread their understanding of news substance to people close to them. The social media channel's interactive feature will be an instant channel that can facilitate discussion about news substance with no limit of space and time. At the same time, I also hope that this study can contribute to the development of the CMM theory.

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