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Climate change awareness of gen z: the influence of frame and jargon on online news

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Abstract This study seeks to know how climate change frames and jargon in online news influence Gen Z's awareness. It is important since only a few studies on climate change communication focus on Gen Z. The research took the quantitative within-subject experimental method to college students as participants (N=110). Participants were divided into an experimental and control group and manipulated by customised online news containing frames and jargon about climate change. The finding is that the climate change frame on the online news influences Gen Z's awareness, while jargon does not. The awareness is higher when Gen-Z was given an uncertainty-risk frame than an economic cost-benefit frame. Despite Gen Z being aware of climate change, a correlation between cognitive and conative awareness is arguably low. The internal factor (less role model) and external factor (less policy involvement) could be the factors of low conative awareness.

Keywords: climate change; youth; frame; jargon; online media

INTRODUCTION

Nowadays, climate change is one of the most critical global phenomena that impacts many aspects of our lives. This issue has become very important for society worldwide. Therefore, an initiative is needed to fight it globally (Pandve et al., 2009; Bruin et al., 2021; O'Brien et al., 2018; Stecula & Merkley, 2019; Schuldt, 2016). In 1972 the first Earth Summit was held in Stockholm, setting out the principles for preserving and improving the human environment. After that, several initiatives related to climate change continued to emerge, such as the United Nations Framework Convention on Climate Change (UNFCCC), signed by 158 countries at the United Nations Conference on Environment and Development in Rio de Janeiro in 1992 (Basu, 2022).

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Parzon et al. (2021) said that forming the right pro-environmental attitude requires action from international organisations and the cooperation of the governments of each country. They also said it was important to shape appropriate pro-environmental behaviour, including integrating pro-environmental content into school curricula at every level of education. Barr et al. (2022) say that when students who are currently part of Gen Z are encouraged to question "forms of choice, structure and distribution of power and authority, participatory decision-making processes," climate change discussions can become part of a participatory and transformative curriculum for Gen Z students. They can be young climate change activists and become part of a global movement.

In Indonesia, a study shows that less than 15% of respondents consider the issue a very important problem (Sulistyawati et al., 2018). Therefore, effective environmental communication in increasing public awareness, including Gen Z, is still needed to achieve the emission reduction target contributing to Indonesia's climate change. The Climate Asia survey in seven Asian countries, namely: Indonesia, China, India, Vietnam, Bangladesh, Nepal, and Pakistan, results that Indonesian people's knowledge of climate change is still the lowest (Copsey et al., 2013). Gen Z is a generation that lives in conditions of climate change. According to the IPCC (2013) explanation, in 2050, a child born in 2000 tends to live on a warmer Earth, 0.8 ° C to 2.6 ° C, with sea levels 5-32 cm higher than in 1990 (Fløttum et al., 2016). However, from all the research on climate change awareness, there has not been much focus on this generation. This research fills the gap by observing perceived climate change in Gen Z.

Leiserowitz, Smith, and Marlon (2011) conducted a study on climate change awareness among Gen Z, with the result that relatively few American adolescents (aged 13-17 years) have a deep understanding of climate change (Fløttum et al., 2016). Likewise, Norway's young generation in America also has little knowledge about climate change. Only 38.7% stated they had good knowledge of climate change (Ojala, 2012a).

Despite most youths in Indonesia expressing their love for the environment, the real action is still limited. Environmental issues are intended for the current and future generations (Parker et al., 2018; Roziqin et al., 2021). Media is deemed to play the most important role in addressing the climate change issue, specifically in covering and representing environment and climate change to create public awareness among news consumers. One way to raise individual awareness about climate change is to communicate climate change issues with climate change terminology often encountered in environmental news articles (Pacoma, 2019). However, in the study about climate change terminology, even if a term appeared to be understood, people were not always clear about how it applied to climate

change. Reading the terms in the context of climate change was not always helpful due to the use of complex language (Bruin et al., 2021).

Global warming jargon is popular in American society. However, amid the popularity of this jargon, not everyone agrees that global warming can refer to the temperature changes experienced by the world community today. Frank Luntz, a political consultant for former President George W. Bush, suggested replacing the jargon of global warming with climate change because climate change connotes a more controlled and less emotional thing than global warming, which has a more catastrophic connotation so that it better describes the changes taking place in various countries (Jaskulsky & Besel, 2013). According to Whitmarsh (2009), the public response to global warming jargon is related to human factors that cause environmental problems, while climate change jargon is related to natural factors that cause it.

Environmental issues in Indonesia are predominantly deforestation, land degradation, pollution, and air and water quality, leading to climate change issues (Roziqin et al., 2021). Like in America, the jargon of climate change and global warming has also dominated Indonesia's online news to inform the public that climate change is happening worldwide. Studies in the Philippines focused on climate change coverage showed a slight increase of climate change coverage on online news related to various attributes of agenda setting, such as political, scientific, and environmental or ecological frames. Meanwhile, another study mentioned that global warming became a leading term frequently used to cover climate change-related issues (Pacoma, 2019). Jargon is believed to be the keyword in the news frame to communicate environmental issues with cognitive effects (Schuldt et al., 2015). The choice of jargon on climate change significantly influences how respondents understand the problem of climate change (Jaskulsky & Besel, 2013; Schuldt et al., 2011, 2015; Whitmarsh, 2009).

Smith & Kosslyn (2013) said that individual depends on their cognitive capacity to extract information from memory from similar assessments and find causes of events when faced with uncertainty. Based on this explanation, the jargon of climate change or global warming in online news frames could increase individual environmental awareness about climate change issues.

These facts show that cognitive awareness of climate change in youth affected by climate change directly is not yet adequate. One way to raise youth awareness is by framing climate change messages in the news. Corner (2015) said that how messages and information about climate change are framed can influence the perceptions and responses of young people (Corner et al., 2015; O'Brien et al., 2018). Framing transfers important attributes in the news by selecting several facts related to the issues being discussed, said Griffin, as quoted by Dauda & Nik Hasan (2018).

News about climate change has often appeared in Indonesia's online news with the jargon of global warming and climate change.

Several studies have shown that different connotations arise when discussing climate change with the jargon of climate change or global warming. Meanwhile, how the younger generation's perception is formed, who in this study is Gen Z, depends on how the climate change information is framed. This research focuses on the influence of jargon framed by online news on climate change awareness among Gen Z in Indonesia. It leads to the question, is there any influence of the climate change frame and jargon in online news on Gen Z's awareness?

Climate change issues often appear in online media in various news frames and jargon. Online news framing affected individual heuristic judgment (Ariestya, 2018, 2019), while other researchers mentioned that previous experimental studies had measured the effect of framing climate change compared to global warming on public perceptions (Schuldt, 2016). Research by Villar & Krosnick (2011) shows that the jargon of climate change or global warming in American society has only a small impact on the perception of the national community's seriousness about the problem of climate change.

The frame or jargon chosen has consequences for society. Research by Schuldt & Roh (2014) shows that framing the issue of global climate change with the jargon of global warming (versus climate change) provides a direct experience of temperature changes that occur so that it potentially provides a perception of a threat related to disasters. Global warming is more believed to be happening than climate change. Whitmarsh's research (2009) shows that global warming is more associated with heat and human activity, while climate change is associated with climate effects and natural events. According to Leiserowitz et al., (2013), global warming affects individuals more negatively.

News frames can play a role in climate change communication as a cause or effect variable. As a causal variable, the news frame contains text which can have a particular effect. Framing works as an attribute of objects consisting of cognitive and affective attributes. Awareness of climate problems is defined as an attitude construct consisting of cognitive and affective components. The cognitive component is directly related to climate change perception as a problem, while the affective component is perceived in concrete terms due to the threat of climate change (Arlt et al., 2011).

According to Schuldt & Roh (2014), frames are likely to influence how the public understands climate issues and their environmental policy preferences. The frame will benefit the future development of environmental communication, which explores how individual mindsets are shaped by the myriad of other environmental frames commonly used by the media. There are several forms of framing about climate change that is often encountered in media framing. Stecula & Merkley (2019) state that there are at least three climate change framing forms: economic cost-benefit, conservative-free market ideology, and uncertainty-risk. This research will focus on two climate change frames:

economic cost-benefit and uncertainty-risk because these two forms are common in climate change news in Indonesia's online media.

A climate change frame can focus on the economic costs and benefits of climate action for individuals or communities. Researchers have found that economic fluctuations affect the level of environmental concern (Kahn & Kotchen, 2011; Stecula & Merkley, 2019). Economic concerns about the impacts of climate change can be framed in terms of costs and benefits. This kind of frame is known as the economic cost-benefit. Several studies have shown that framed messages are cost-effective in influencing climate change attitudes and behaviour (Davis, 1995; De Vries et al., 2016; Stecula & Merkley, 2019).

The problem of climate change is also a problem related to uncertainty. Journalists covering uncertain climate change issues rely on controversy and debate as news commodities (Friedman et al., 2012). As a result, how journalists present and describe scientific uncertainty affects how the public interprets that uncertainty. Part of communicating the scientific uncertainty of climate change is a risk. Discussions about climate change risks are linked to frames and language that convey the severity of possible climate impacts. Therefore, a frame that focuses on climate change uncertainty risk can motivate climate action in the general public (Stecula & Merkley, 2019).

Meanwhile, Fairhurst (2005) states that the art of framing technique can be done using five main language tools: metaphors, jargon/slogans, contrast, spin, and stories. Framing with jargon is done by framing objects with easy-to-remember phrases to make them more memorable and relate to the intended context. This 'jargonisation' or labelling has cognitive accessibility of knowledge and tends to influence opinion results (Schuldt, 2016).

Activism on social media is divided into three categories: advocacy, mobilisation, and action. Social media is used to advocate a problem which is carried out by disseminating information related to events or issues to mobilise an action or movement. Mobilised movement can be done in three ways: spreading invitations to take offline actions, generally carried out online, and invitations to take online actions. Social media is used to build interest or attract the audience's interest to participate in a movement (Vegh, 2013).

In Dumitrica & Felt (2020), it is stated that social media activism could have the eco-chamber effect. It democratises message flow. Citizen activists can (allegedly) use their networks to amplify their messages. Nevertheless, social media algorithms play a gate-keeping role: as individual networks grow, the algorithms increasingly intervene in filtering which messages will be made visible. Twitter is a popular micro-blogging platform that attracts not only individuals who intend to communicate with each other but celebrities, political figures, and even public and private organisations. It is now more commonly addressed as a news media where people usually opine (Kwak et al., 2010). Thus, the social buzz on such platforms can be anything that gains higher than

usual traction, including events, statements, and controversies (Aswani et al., 2017; Murthy, 2015; Popescu & Pennacchiotti, 2010).

This study defines youth as Gen Z living in the climate change era. Gen Z are people born from 1995 to 2012 (MacKenzie et al., 2014). With a hypertext mindset, they are heavily influenced by digitisation and prefer to get information from a much more attractive and livelier (Salleh et al., 2017). Unsurprisingly, they are more comfortable consuming news through online media.

Talking about youth in Indonesia in terms of climate change awareness, a study shows that Indonesian youth are happy to self-identify themselves as environmentalists; 81.9% of the respondents that are high school students, which are part of Gen Z, claim to be an environmentalist (Parker et al., 2018). The same question asked to the university student by another researcher, Pam Nilan, as quoted by Parker, resulted in only 47.8% of the respondents saying they were environmentalists.

Youth play a crucial role in combating climate change. Youth is the next generation inhabiting and inherits the responsibility to protect the planet (Pandve et al., 2009). Youth are concerned about climate change, including the threats posed by the change of the global climate, and even some are already feeling the impacts. As the generation that will be greatly affected by the issue, youth have the right to participate in responding to climate change. They need to be involved with the issue since this is an issue in their present and future lives (Narksompong & Limjirakan, 2015)

In his article, Corner (2015) said that one of the essential things to influence youth to be involved in climate change is message framing. Framing climate change as an imminent environmental disaster can contribute to feelings of hopelessness and feelings of helplessness, which can lead to disillusionment, apathy, and inactivity among youth (O'Brien et al., 2018; Ødegard & Berglund, 2008; Ojala, 2012b; Schreiner & Sjøberg, 2006). On the contrary, a more positive and emotional frame can elicit a sense of hope, engagement, and many more constructive coping strategies from youth (O'Brien et al., 2018; Ojala, 2012a, 2012b, 2013). In a social movement, framing plays a significant role and becomes essential. Furthermore, framing portrays the different arguments, beliefs, emotions, and experiences and transforms them into a coherent message for participants (Polletta & Kai Ho, 2006).

In this research on climate change, environmental awareness has several components in assessing it. Ham et al. (2016) explained that there are at least three components in measuring environmental awareness: cognitive, affective, and conative. The cognitive component deals with understanding how meaning is formed, applied, and stored in an individual's mind. The affective component was often verbally stated as good-bad, positive-negative, or like it or not. The affective component of environmental awareness includes all anxieties, hopes, feelings, and emotional reactions related to environmental problems. Meanwhile, the

conative component of environmental awareness is related to behavioural intention to contribute to solving environmental problems (Ham et al., 2016).

Based on previous research findings, this study assumes that there is an effect of using climate change frames and jargon in online news on climate change awareness among the younger generation, especially Gen Z, which consists of cognitive, affective, and conative dimensions. To support these arguments, we propose two hypotheses in this study.

H1: Climate change awareness of Gen Z is different through the news frame
H2: Climate change awareness of Gen Z is different through the jargon

METHODOLOGY

This study uses a quantitative approach to within-subject experiment methods. In a within-subject design, the same respondents or conducted trials twice or more (Baxter et al., 2018). Statistically advantageous, this experimental design minimises differences at the individual level so that it is more convincing than the differences found in the test results between the levels of the independent variables are significant. There was less diversity in the intermediate groups. According to Baxter et al. (2004), although this experimental design has its advantages, several things need to be considered. The first is the order in which respondents influence their answers when the trial is conducted. The experimental design's order effect occurred when the respondent answered following the sequence of the causal variables presented. The way to minimise the sequence effect is by randomising the order in which the respondent is treated. One of the techniques in this research is the ABBA balancer.

The within-subject experimental design will be combined with the Post-test Only Control Group Design. The group of participants will be divided into experimental and control groups. The treatment was only given to the experimental and second groups as measured in the post-test (Creswell & Creswell, 2018).

Experimental participants are Universitas Multimedia Nusantara students classified as Gen Z (born> = 1997) and urban communities. Participants were randomly selected (N = 110) and divided into two groups (55 people each). The sample is Universitas Multimedia Nusantara students because the student will represent a homogeneous sample required in the experimental studies. The sample is homogeneous, meaning it has the same demographic characteristics, age, education, and income. It is done to reduce selection bias. Experimental research was conducted at Universitas Multimedia Nusantara.

In order to observe the influence of frames and jargon on individuals, the participant questionnaire as an experiment result is

decisive. Random assignments were carried out to avoid bias towards the experimental result. Participants were shortlisted into the experimental group or control group through the randomlist.com tool. Both the experimental and control groups will enter the room and be presented with a particular website containing online news with manipulative frames and jargon. Participants of both groups will read the website and the news from their respective smartphone devices. After that, they served to fill out the questionnaire that had been provided. The questionnaire of this study is a modification of the statements in the research of Whitmarsh (2009) and Jaskulsky (2013). Several statements were processed and followed the research objectives.

Each participant in the experimental group will be given four manipulative news alternately with frames (economic cost-benefit and uncertainty-risk) and jargon (climate change and global warming). Each participant in the control group is given manipulative news without frames or climate change jargon. The treatment sequence can be summarised in Table 1 as follows:

Table 1. Experiment & Control Test Order

No	Experiment (Jargon)	Experiment (Frame)	Control
1	Global Warming	Economic Cost- Benefit	Without any jargon & frame
2	Climate Change	Economic Cost- Benefit	
3	Climate Change	Uncertainty-Risk	
4	Global Warming	Uncertainty-Risk	

Source: Schuldt, 2016; Stecula & Merkley, 2019

A manipulation check is carried out through a pre-test made according to the conditions when experimenting later to ensure the experimental test results' validity. The pre-test of 30 respondents showed that 96% of respondents could understand and distinguish precisely the news frames and jargon used as the experimental tool.

The effect of online news frames and jargon on climate change awareness of Gen Z can be seen by looking at the differences in the answers of participants in the experimental group and the control group through a Likert scale questionnaire 1 - 7 (1 = Strongly Disagree, 2 = Disagree, 3 = Fairly Disagree, 4 = Neutral, 5 = Fairly Agree, 6 = Agree, and 7 = Strongly Agree).

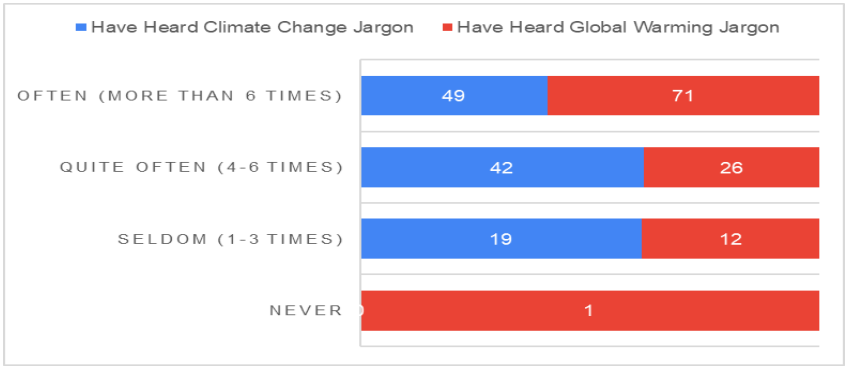
This study used the Kruskal-Wallis H non-parametric test. The basis for statistical decision-making is to accept Ha if the p-value is <0.05 and to reject Ha if the p-value is> 0.05. Before carrying out statistical tests, the three most important things are fulfilling the requirements for reliability, validity, and data homogeneity. The reliability test results show that Cronbach's Alpha is 0.867, and the validity test shows KMO and Bartlett's Test (p-value <0.05), which means that the data is reliable and valid. Meanwhile, the data is also

homogeneous based on the Levine Test (p-value = 0.907> 0.05). Based on the data information, the next statistical test can proceed.

RESULTS AND DISCUSSION

Based on the experimental questionnaire result, in general, there are no participants who have never heard the jargon of climate change, but there are participants who have never heard the jargon of global warming (see Figure 1).

Figure 1. Participant Experimental Questionnaire



Source: Data processed, 2022

For those who have heard, the jargon of global warming is heard more often (more than six times) than climate change. The participants' answers are calculated to identify Gen Z climate change awareness and then given a score and percentage. The maximum score for participants' answers in each category (frame and jargon) of the experimental group was 770 because each variable (frame and jargon) was treated twice with a maximum scale of 7 (Strongly Agree), while the maximum score for the control group's answers was 385 because of non-treatment. The score for the participants' answers will be divided by the maximum score and then the percentage with the following assessment conditions:

Table 2. Assessment of Participant's Answer Score

Score in percentage (%)	Assessment
0 – 20	Very Weak
21 – 40	Weak
41 – 60	Fair
61 - 80	Strong
81 - 100	Very Strong

Source: Data processed, 2022

We can assess participants' climate change awareness based on the percentage of answer scores. As a result, the average participant has a very strong awareness of climate change, above 82% (see Table 3). However, we can still identify whether there are differences in climate change awareness resulting from online news frames and jargon.

This result supports previous research by Pandve et al. (2009) that assessed awareness about climate change among the youth, resulting in 98.5% of the respondents saying the global climate is changing. It is confirmed that the youth are aware of the problem.

Table 3. Climate Change Awareness of Gen Z

Participant Responses	Awareness Score					
	Through Frame			Through Jargon		
	ECC	UR	C	GW	CC	C
Climate change is happening	94%	93%	92%	93%	94%	92%
Climate change is a serious threat	93%	95%	90%	94%	95%	90%
The impact of climate change will be even more significant and dangerous	94%	94%	93%	94%	94%	93%
The main factor causing climate change is human activity	82%	85%	83%	82%	85%	83%
I am afraid of climate change	87%	90%	83%	88%	89%	83%
I am worried about climate change	89%	91%	86%	89%	91%	86%
Climate change needs to be addressed immediately	92%	94%	92%	93%	92%	92%
I will start doing something to mitigate climate change	83%	88%	85%	85%	86%	85%

Source: Data processed, 2022

Note:
1. ECC: Economic Cost & Benefit
2. UR: Uncertainty & Risk
3. GW: Global Warming
4. CC: Climate Change
5. C: Control

We can see the statistical test results to determine the difference in participants' climate change awareness among the experimental group. Based on the Kruskal-Wallis H test, climate change awareness through the frame is significantly different (p-value <0.05). The difference is seen in the affective and conative dimensions of climate change awareness (see Table 4), while the cognitive dimension is not significantly different. Conversely, based on the same statistical test, the provision of jargon did not produce a significant difference in climate change awareness (p-value> 0.05).

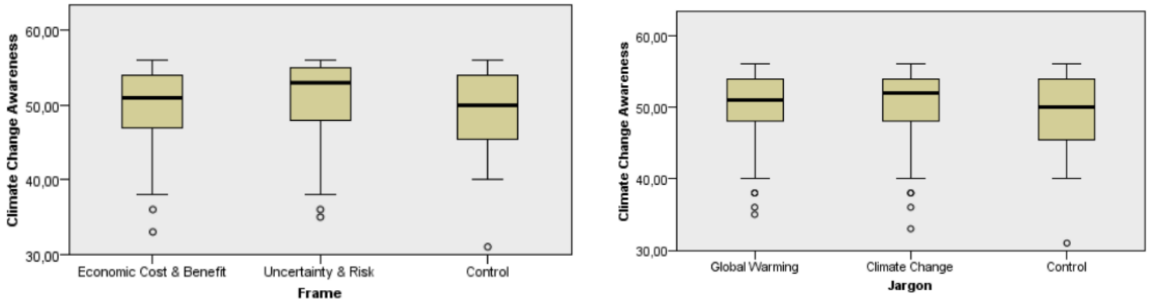
Table 4. Statistical Test Results

Frame		Test Statistic	Sig.	Decision
	Climate Change Awareness	H= 7.727	0.021	Accept Ha
	Cognitive	H= 5.071	0.079	
	Affective	H= 8.179	0.017	
	Conative	H= 6.520	0.038	
Jargon		Test Statistic	Sig.	Decision
	Climate Change Awareness	H= 4.097	0.129	Reject Ha
	Cognitive	H= 3.320	0.190	
	Affective	H= 7.041	0.030	
	Conative	H= 0.399	0.819	

Source: SPPS data processed, 2022

It is confirmed by looking at Figure 2. Climate change awareness is distinguished by the group of frames and the control group. This study accepts the first research hypothesis's assumptions with these results but rejects the second hypothesis.

Figure 2. Independent-Samples Kruskall-Wallis Test



Source: SPPS data processed, 2022

Meanwhile, based on the same statistical test, the provision of jargon did not produce a significant difference in climate change awareness (p-value> 0.05). Practically only the affective dimension has a significant difference because of the jargon. Thus, this study rejects the assumptions of the second research hypothesis. This result means that a frame affects the climate change awareness of Gen Z, while jargon does not affect climate change awareness.

Calculating the Effect of Size

A Mann-Whitney U-Test comparison can be conducted to calculate the effect size of frames and jargon. Here, we will test based on category. In the frame category, the test will be economical cost & benefit compared with uncertainty & risk. Meanwhile, in the jargon

category, the test will be global warming compared with climate change. The result is in Figure 3 as follows:

Figure 3. Comparison of Climate Change Awareness between Frame and Jargon

ECC vs UR

	Climate Change Awareness
Mann-Whitney U	5041,000
Wilcoxon W	11146,000
Z	-2,148
Asymp. Sig. (2-tailed)	,032

a. Grouping Variable: Frame

GW vs CC

	Climate Change Awareness
Mann-Whitney U	5625,000
Wilcoxon W	11730,000
Z	-,905
Asymp. Sig. (2-tailed)	,366

a. Grouping Variable: Jargon

Source: SPPS data processed, 2022

In calculating the effect size, we will use the formula r = Z score / √ N with a critical value of 0.05. The effect size is considered small to large from r = 0.1 – 0.5 (Field & Hole, 2003). For the first comparison (r1), Economic Cost & Benefit vs Uncertainty & Risk, the output in figure 3 shows us that Z is –2.148, and we have observations in total (N=110). Therefore, the effect size is -0.20. For the second comparison (r2), Global Warming vs Climate Change, the Z score is -0.905. Therefore the effect size is -0.09. Based on this, we know that frame significantly affects climate change awareness (p-value = 0.032 < 0.05) with a moderate effect size. Conversely, jargon does not significantly affect climate change awareness (p-value = 0.366> 0.05). Here, we know that the news frame in online media influences Gen-Z's climate change awareness, whilst the jargon does not.

Based on the data in Table 3, it can be seen that there are significant differences in the affective and conative dimensions (2% - 5%) when given the uncertainty-risk frame compared to the economic cost-benefit, as well as compared to the control group. The uncertainty-risk frame produces a stronger awareness of climate change than the economic cost-benefit frame. Online news covering disaster information because of climate change provides more fear and worry than economic loss (see Table 3). However, framing climate change as an impending environmental disaster does not necessarily contribute to feelings of hopelessness and helplessness, leading to feelings of disappointment, apathy, and inactivity among the younger generation as in previous studies (O'Brien et al., 2018; Ødegard & Berglund, 2008; Ojala, 2015; Schreiner & Sjøberg, 2006).

The uncertainty-risk framing might affect affective awareness, but unlike what was conveyed by Corner (2015), young people tend to be hopeless, apathetic, and inactive when reading disaster news related to climate change. Young people are terrified but are worried about climate change. However, the research result shows that feelings of fear and

worry in young people positively correlate with their conative awareness. This study indicates that Gen Z remains aware of the need to tackle climate change immediately and will do something to mitigate climate change. This conative awareness is even more remarkable when given the disaster news frame.

In her research, Whitmarsh (2009) states that global warming jargon provides meaning related to human activity, while climate change jargon is related to natural phenomena. This study's findings indicate that Whitmarsh's research does not apply to Gen Z because neither the jargon of global warming nor climate change influences climate change awareness. Among Gen Z, climate change has been recognised as a phenomenon caused by human activities (see Table 3). Jargon only affects the affective dimension but is insufficient to influence climate change awareness. According to Villar & Krosnick (2011), the jargon of climate change or global warming has only a small impact on the perception of seriousness about climate change, such as what happens in American society.

The results are more interesting when we know that news frames and jargon do not significantly affect Gen Z cognitive dimensions. Awareness scores indicate that Gen Z already has a very strong cognitive awareness about the climate change phenomenon. Based on the data, Gen Z has already realised that climate change is indeed happening, climate change is a severe threat, the impacts of climate change will be even more significant and dangerous, and the main factor causing climate change is human activities (see Table 3). Gen Z is known to be careful and pragmatic. On the other hand, this generation is also inspired to change the world. As a digitally native generation, Gen Z was born and shaped by various crises, one of which is climate change caused by online media. They are driven to find their way rather than follow a formula. They will also be the ones to be responsible for confronting the aftermath of the crises they were born into, one of which is climate change (Sladek & Miller, 2018)

However, although Gen Z's cognitive awareness is already strong, it does not generate the conative awareness to embark on climate action. Based on the correlation conducted with Kendall's tau_b, cognitive awareness is closely related to the affective awareness of Gen Z ($r = 0.510$, p-value <0.05). However, the correlation between cognitive and conative awareness is less significant ($r = 0.471$, p-value <0.05). It means that the more Gen Z realises that climate change is happening, the more they feel fear and worry. They notice that climate change needs to address immediately. Nevertheless, it has not yet successfully made Gen Z take more action to mitigate climate change. This finding might be supported by another study in Indonesia that among youths in Indonesia who claimed themselves environmentalists, 23.2% said they never participated in any environmental activities (Parker et al., 2018).

The low conative awareness of youth happened due to internal factors (there was no role model for doing real climate action) and external factors (less involvement and support from the government, youth became the less priority in the Indonesian climate change policy). The case of Youth for Climate Change (YFCC) Yogyakarta represents how minimum local government's involvement towards the youth education campaign on climate change (Luthfia & Alkhajar, 2018). Talking about encouraging action related to environmental issues, a collaboration of NGOs, government, and digital media activist networks, which also collaborate with the right social media influencers, is highly necessary (Elmada et al., 2020).

According to Corner (2015), one of the factors determining young people's interaction with climate action is information and knowledge, and self-efficacy. Although youth only has limited knowledge about climate change, they will prove not to be sceptical of climate change if their self-efficacy is high. However, if their self-efficacy is low, interactions on climate issues will be limited. Most youth worldwide have realised that climate change threatens and affects their future (Albert et al., 2010; Tranter & Skrbis, 2014; Sanson & Burke, 2020). Regarding the theoretical implication, this finding gives a perspective of how important media framing is for Gen-Z because the online news media effect is proven to enhance their awareness. Besides raising awareness, the influence of media can enhance the level of interaction among Gen Z and other youth to build more initiatives on climate action. These initiatives impact the changing behaviour of each individual to apply a sustainable lifestyle in daily life. In such matters, it is important to empower online media to convey messages and construct an inspiring role model of climate change mitigation action for Gen-Z more often.

CONCLUSION

From the experimental study on Universitas Multimedia Nusantara students, we can see that online news frames influence the climate change awareness of Gen Z. Conversely, we can also see that jargon does not influence the climate change awareness of Gen Z. Only the affective dimension is affected by jargon, so it is not significant enough to generate climate change awareness. Gen Z has a very strong climate change awareness, on average more than 82%. Climate change is close to Gen Z because they live in a time of climate change, and their future is also affected by climate change. The results of this study provide input on future climate change communications. Climate change communication to Gen Z can pay attention to how online media can frame climate change news.

Online news frames can influence their affective and conative dimensions. This conclusion was drawn by looking at the significant differences in the participant's awareness on average. The uncertainty-risk news frame generates higher climate change awareness than economic cost-benefits. The effect generated by the frame is considered

quite moderate. However, the finding is that Gen Z's cognitive awareness is not significantly different (whether stimulated by frame or jargon) because most Gen Z has realised that climate change is happening. This finding leads us to know that Gen Z has a strong cognitive awareness by knowing the existence of a climate change phenomenon in their midst.

Gen Z's cognitive awareness is closely related to the affective awareness of Gen Z. However, the correlation between cognitive and conative awareness is less significant. It means that Gen Z realises that climate change is happening, and they fear and worry about it. Nevertheless, it has not yet successfully made Gen Z take more action to mitigate climate change. This might be why Gen Z still lacks action to mitigate climate change despite realising that climate change needs to be addressed immediately. The internal factor (less role model) and external factor (less policy involvement) could be the factors of low conative awareness. This result will contribute to climate change communication improvement and the next research on media and climate change.

Like other experimental research, this study has limited external validity in generalising the results. This limitation is overcome by homogeneity among participants, which means that it is possible to have the same result if applied to other Z generations living in the city. This research has not answered news frames and other jargon found in online media other than those researched. The news frame in question is limited to news headlines and leads only and has not yet tested other aspects of framing. The shortcomings of this study will be an input for further research in the future.

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