Article

Visual Risk Communications in the Climate Crisis

Lin Dong

Department of Crisisonomy, Chungbuk National University, Chungbuk 28644, Korea
dy0546@chungbuk.ac.kr

1. Introduction

The overwhelming consensus among climate scientists is that global warming is happening and that human activities are the primary cause. If we fail to address this issue, it will have severe implications for both the environment and humanity [1].

Changing beliefs and attitudes about climate change is critical to effectively addressing and adapting to its impacts [2]. Therefore, many believe that how the risks associated with climate change are communicated is critical, as human perception of climate change reflects public concern and motivation for action [3], and plays a central role in mobilizing public participation [4]. However, climate change is a notoriously difficult topic to communicate.

Many climate communication researchers have highlighted the difficulties arising from the lack of temporal and spatial proximity related to the causes and effects of climate change. Social psychology research shows that people tend to prioritize immediate personal experiences and needs over long-term and conceptually abstract risks when assessing risk and taking action. They argue that because that causes of climate change are not immediately visible and its effects are distributed over wide geographic areas and long-term scales, climate change does not have recent effects in time and space, making it impossible for most people to immediate risk in the mind of the person. [5-10]

RQ 1: How to study risk communication strategies related to climate change from the perspective of social psychology?

The phrase "a picture is worth a thousand words" is a manifesto that speaks to the value and efficiency of visual communication [11]. Visual representation plays an important role in portraying climate change, with countless images shared across the globe every day [12].

While there has been extensive research on verbal and written communication about climate change, our comprehension of how people interpret visual images of climate change is primarily based on a limited number of academic studies. Unfortunately, these studies do not offer practical guidance for communicators. As a result, the iconography of climate change has remained relatively static. For example, the focus on polar bears and smokestacks has become cliched and fails to capture the complexity and diversity of the problem. [13-15]

RQ 2: How to use visual communication to effectively communicate the climate crisis and change people's behavior?

This study aims to investigate effective strategies for communicating climate change-related risks to the public and explore the use of visual communication as a means to influence individual behavior. In addition, the study seeks to provide recommendations for government efforts in mobilizing public participation to address climate change.

2. Literature review

2.1 Visual communication and climate crisis

Humans are visual animals: our understanding of the world is dominated by what we see, and how this makes us feel [16]. Visual communication plays a crucial role in raising awareness and addressing the climate crisis [17]. By using compelling visuals, such as infographics, photographs, and videos, we can effectively convey complex environmental issues to a wide audience [18-19].

However, despite decades of public engagement (and the proliferation of research on the verbal and written communication of climate change), there is sparse evidence on which to base a choice that thousands of journalists, activists, bloggers and educators face on a daily basis: how to communicate climate change effectively using the visual medium [20-21].

This challenge does not stem from a shortage of potential images [22]. Images depicting the causes and effects of climate change, such as smokestacks, Arctic Sea ice and polar bears, are widespread [23]. Graphical and scientific representations, such as diagrams illustrating the greenhouse effect, are also common [24]. While images showing people taking action or adapting to climate change are used, such as climate protests, international leaders signing agreements, and individuals installing solar panels, they are uncommon compared to impactful visuals [25].

Visualizing climate change is a complex task. It is characterized by uncertainty and contains long-term cumulative processes that are often not directly observable [26-27]. This intangibility and abstraction make it difficult for many audiences, especially those in industrialized countries, to fully comprehend its content [28]. In the 1980s, activists made a strategic decision to link climate change to an iconic animal, the polar bear, which provided an easy visual representation [29-30]. However, this association inadvertently reinforces the perception that climate change is a distant issue, potentially limiting climate discourse to concepts that are disconnected from people's everyday lives.

2.2 Psychological distance in climate visuals

The construal level theory explains the relationship between psychological distance (PD) and people's responses to specific events [31-32]. PD includes four dimensions: spatial, social, temporal, and hypothetical [33-34]. These dimensions are interconnected, despite their differences [35-36].

PD is a crucial psychological construct that influences how people perceive objects and events as either concrete or abstract. When something is perceived as psychologically close, it is seen as more concrete, whereas when it is perceived as psychologically distant, it appears more abstract [37]. This connection between PD and perception leads to different interpretations of objects and events [38]. Concrete explanations focus on details, while abstract explanations focus on the broader picture.

PD can play a role in pro-environmental and resilient behaviors regarding climate change. When people perceive climate change as psychologically close, they are more likely to see it in concrete terms, leading to a greater willingness to engage in pro-environmental and resilient behaviors. Conversely, when climate change is perceived as psychologically distant, it is represented in a more abstract manner [39].

When it comes to the climate crisis, visual communication can make it more tangible and immediate by providing visual evidence of its impact. Powerful images and videos of extreme weather events can help bridge PD and create a sense of urgency. These visuals can evoke emotions, empathy, and a greater understanding of the crisis, motivating action and behavioral changes.

Additionally, visual communication can also paint potential future scenarios and solutions, making them more relevant and accessible. By imagining the consequences of inaction or illustrating sustainable practices, people can more easily imagine their own role in addressing the climate crisis and take meaningful steps toward a sustainable future.

Overall, the effective use of visual communication can help reduce the PD associated with the climate crisis and increase awareness, understanding and engagement in addressing this global challenge.

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