Fighting the raging beasts' blaze: Examining the effect of message framing in wildfire news reports on risk perception

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Introduction

Climate projections for Canada show temperature increases and dry, windy conditions that will fuel wildfires. Canada's northwestern boreal region is expected to experience an increased frequency of wildfires, resulting in severe health, environmental and economic consequences. Peoples' understanding of their risk can play a significant role in determining disaster response actions and outcomes. Of particular interest to researchers are factors influencing peoples' risk perception. Metaphors used in news reports to communicate information about wildfires are often employed as a conceptual tactic to shape the public's understanding of the wildfire events. This study fills a gap in current research by examining wildfire metaphoric framings and other communication tactics in the media and their influence on risk perceptions and planned coping behaviours. The research is based in the Kamloops Fire Centre area, where there have been major fires in the last few years.

Research Questions

This study examined whether framing wildfires using metaphors, statistics, and health risks influence wildfire severity perceptions, concerns about wildfires' consequences, and intentions to engage in health-protective behaviours. The line of inquiry rests on the following assumptions that are grounded in scholarly work: i. people who read antagonistic metaphors perceive wildfires as more severe; and ii. antagonistic metaphors evoke greater urgency to act on environmental issues. Three major hypotheses guide the investigation:

a) Antagonistic messages have a greater influence on peoples' perception of wildfires as more severe than messages about wildfire statistics.
b) Antagonistic messaging has a greater influence on community members' heightened concern about wildfire consequences than both messages about wildfire statistics and health risks associated with wildfires.
c) Messages that emphasize wildfire-associated health risks have a greater influence on peoples' intention to adopt health-protective behaviours than messages about wildfire statistics and antagonistic messages.

Methods

Two main research methods were used. Firstly, a media analysis was conducted to develop wildfire scenario vignettes for each of the three framings: metaphor (e.g., raging, forcing), statistical (e.g.,

burning at 10,900 ha) and health risk (e.g., those with pre-existing health conditions…are at greater risk). The vignettes were then incorporated into a survey designed to capture information about wildfire severity, concerns about wildfire consequences and intentions to engage in health-protective actions. Each of the 218 survey participants (recruited from within the Kamloops Fire Centre area) was given one of the three wildfire scenario vignettes. They answered questions related to wildfire severity, perceived consequences and intention to adopt health-protective behaviours. Data analysis was done using ANCOVA to assess the relationship between vignette type, risk perception (severity, concerns, and behavioural intentions) and demographic covariates.

Preliminary Findings

Initial findings confirm that different wildfire framings influence peoples' severity perceptions, concerns about wildfire consequences and intentions to adopt health-protective behaviours. With regards to the first hypothesis, both antagonistic metaphors and statistical framings in news headlines have the greatest influence on peoples' perception of a wildfire as severe. Hypothesis B was rejected, because the statistical framing group was found to have the most influence on concern about wildfire consequences, with women expressing more concern than men. Finally, there was no significant relationship between health risk framing and intention to engage in health-protective behaviours among the three vignette groups. However, there was strong association between gender and age and this intention. More specifically, women were more likely than men to engage in health-protective behaviours.

Conclusion

Understanding factors that influence wildfire risk perception can help to solve an ongoing challenge in disaster risk reduction—influencing behaviour change. Health and emergency communication departments, local public health units, media organizations and emergency services can use the findings to adjust messaging and design adaptive wildfire communication strategies. This research contributes to the growing body of literature at the intersect of climate change and natural disasters' influence on human behaviour and the findings will be shared with local health authorities.