

Parallel session 14: Science in daily press: a cultural question?

MEDIA COMMUNICATION ON CLIMATE CHANGE AND COASTAL PROTECTION: RECEPTION AND INTERPRETATIONS BY THE AUDIENCE

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Abstract

Global climate change has been one of the most prominent transnational risks for the last 15 years. For most citizens the media coverage is the main source to get information about this science-based risk issue. In order to gain better understanding of the communicative and cognitive processes of media reception and interpretation, we conducted a quasi-experimental study. The results confirm studies which claim, that the impact of media coverage on the audience depend on culture-specific interpretative processes of the recipients.

Key words: Knowledge, Media, Public opinion

Text

Introduction

Global climate change and its potential consequences for example for coastal protection (sea level rise) is (at first) only accessible by scientific methods and interpretations. The development of representations about the risk mainly takes place via integrating scientific knowledge into social contexts. For most citizens the media-based public communication is an important social context to get into contact with this issue. In order to understand how citizens make use of media coverage on climate change and coastal protection this paper focuses on the following questions: Which kind of thoughts (cognitive responses) are evoked by the media coverage on climate change? To what extent do the recipients take over the perspective of the article? How are the cognitive responses influenced by recipients characteristics?

Method

At three locations at the German North Sea Coast we confronted 180 randomly chosen test readers with four articles about climate change and coastal protection. The articles discussed different aspects of the topic. The test readers were asked to comment on the articles. The cognitive responses, which were evoked by the media content, were recorded and analyzed with a coding system. Before and after presenting the stimuli articles, we collected data regarding attitudes, values and personal characteristics by questionnaire. By this design we identified interpretative patterns regarding climate change and coastal protection as well as factors guiding cognitive processes of media reception.

Results

Which kind of thoughts (cognitive responses) are evoked by the media coverage on climate change?

The cognitive responses of the test readers indicate, that the reception of media content is a highly interpretative process. The articles have evoked a broad spectrum of thoughts by the participants of the study. The cognitive responses were not only focused on aspects of climate change and/or coastal protection, but were related for example to characteristics of the medium/the author or personal dimensions. The heterogeneous thoughts can be assigned to the following categories:

- author of the article and expert quoted
- self-references (biographical, personal competence, experience and knowledge)
- personal reaction to the article (interest, surprise, trust, mistrust)
- social systems (political-administrative, science, industry) and their problem-solving capacity
- media performance
- risk (existence, acceptance, responsibility, causes, coping)

The heterogeneity of cognitive responses shows, that there is no linear and unique way of reading and understanding "media texts". Next to the general recipient-dependent selection of media coverage, there is a selection and variance of possible interpretations of the same media stimuli. How does this affect the impact of media coverage on the audience?

To what extent do the recipients take over the perspective of the article?

The results of our quasi-experimental study indicate that test reader do not take over simply the content and perspective of the media products: instead of linear message learning we observe active sense-making. That means: articles can be actively supported; articles may not provoke many thoughts, because it is not new or interesting for recipients; articles may be rejected, because the recipients do not believe or do not accept what is discussed in the media product. And the same media stimuli may evoke this range on different recipient-reactions within the audience.

The following tables demonstrate, how a stimuli article, which is skeptical on the CO₂-hypotheses and which discusses, that geological process may be responsible for climate change, evoked very different reactions.

Table 1: Verbalized thoughts of test-readers on the article and the author

	Positive	Negative	Ambivalent	No evaluation	Total
Evaluation Article / author	20 (26%)	44 (57,1%)	2 (2,6%)	11 (14,3%)	77 (100%)

Table 2: Verbalized thoughts of the test-readers on the presented expert and his statements:

	Positive	Negative	Ambivalent	No evaluation	Total
Expert quotes	16 (22,2%)	25 (34,7%)	11 (15,3%)	20 (27,8%)	72 (100%)
Expert	9 (24,3%)	20 (54,1%)	2 (5,4%)	6 (16,2%)	37 (100%)

This results show, that recipients do not take over simply the message of the article. Instead, different readers express different thoughts on the same stimuli. But which factors influence this variety in cognitive responses?

How are the cognitive responses influenced by recipients characteristics?

The interpretative reception of media content points to the fact, that characteristics of the recipients are important for the understanding of media impact. As we have shown in the tables, the article on the CO-2-hypotheses obviously evoked critical thoughts by the majority of our test readers. Taking into account personal characteristics of our test-readers, which we have surveyed by a questionnaire in our quasi-experimental study, it becomes clear, that the thoughts are evoked by the media content (agenda setting), but shaped by values, attitudes, beliefs etc. of the recipients. The table below show the different reactions of test readers with low and high environmental awareness.

Table 3: Verbalized thoughts of the test-readers on the presented expert statements in relation to environmental awareness.

Environmental awareness	Positive	Negative	Ambivalent	Total
Low	9 (27,3%)	9 (17,2%)	15 (45,5%)	33 (100%)
High	7 (17,9%)	16 (41,0%)	16 (41,0%)	39 (100%)
Total	16 (22,2%)	31 (43,1%)	25 (34,7%)	72 (100%)

Conclusion

Our study on reception processes of media coverage on climate change and coastal protection shows, that recipients actively engage with media content. The media provides interpretations on climate change and coastal protection, which evoke thoughts in recipients. But which kind of thoughts are evoked is to a high degree dependent on characteristics of the recipients and not determined by the media content.