

# Decision-Making in a Complex World:

## Individual Responses to Climate Engineering

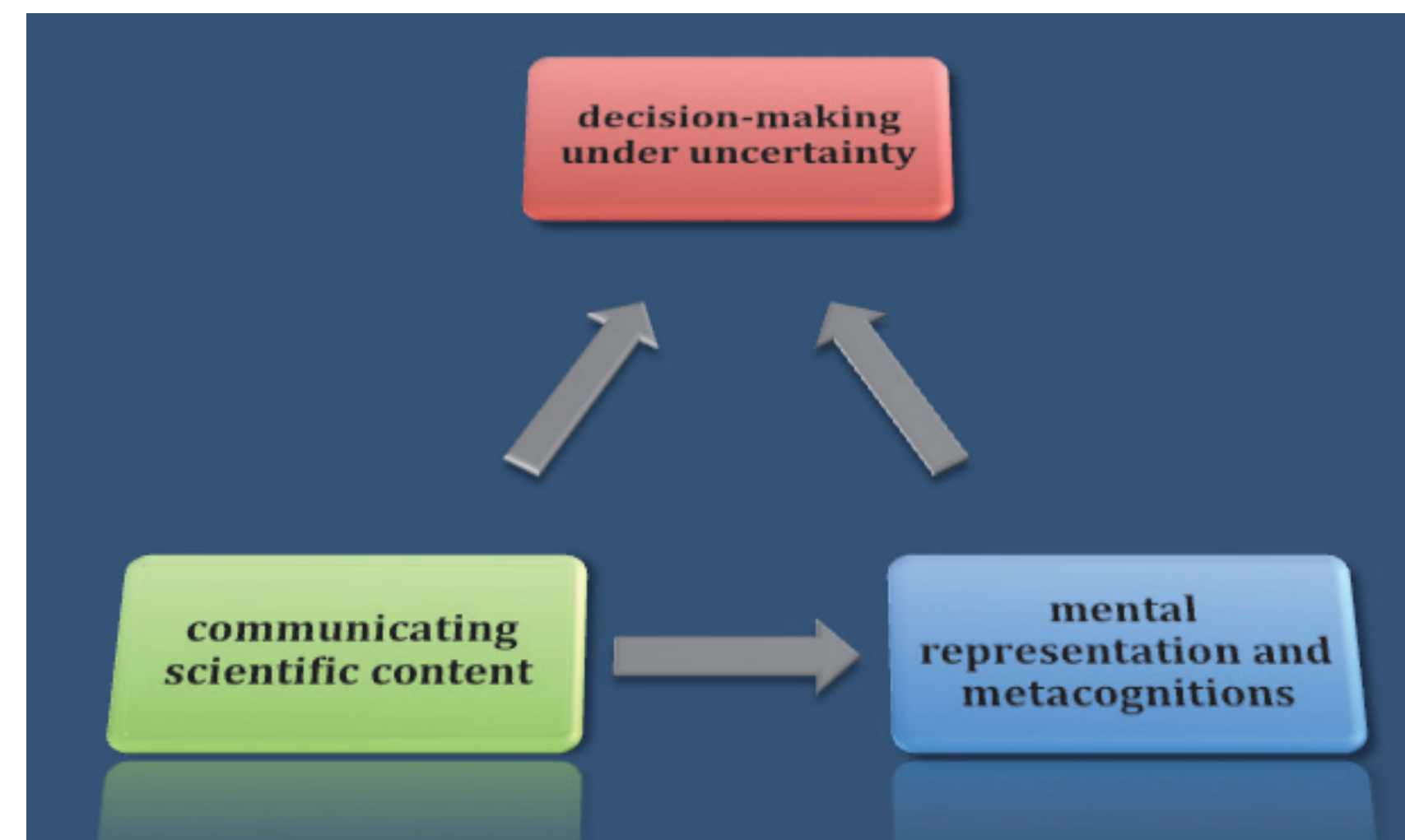
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## Individual decision-making under uncertainty

When confronted with a risky decision many individuals would opt for the riskier alternative provided that it can be combined with an action that may decrease the (perceived) risk. Thus, the decision-maker reaches a certain sense of control over the situation. What does that mean with respect to climate change, especially when thinking about the often cited "moral hazard" argument? Can we find empirical support for the hypothesis that the mere possibility of implementing technological options will undermine mitigation efforts or is there evidence for the reverse assumption that the daunting prospect of manipulating the climate system by technological means will enhance the motivation to mitigate?

Using quasi-realistic scenarios the question will be addressed what a lay person's decision regarding the "appropriate solution" to climate change would look like having regard to the underlying processes leading to this decision.

## Mental representation and metacognitions

What does the cognitive structure of knowledge and judgements of climate change and climate engineering look like among lay persons?

In addition, the so-called metacognitions are to be integrated into a mental model of climate change. Such

metacognitions can be described as higher-order cognitions that monitor and control primary cognitions and thus can provide additional predictive value for behavior.

This brings us to the important question if and how these theoretical constructs systematically interrelate in their impact on behavior and especially on decision-making under uncertainty. If systematic correlations between certain aspects of the mental representation of climate change and decision-making can be found in the given context it is even more important to take a closer look at the way in which different frameworks of media coverage influence the cognitive structure.

## Communicating scientific content

Media coverage of the subject can be seen as a powerful means of influencing public attitudes and judgements. Even if the press is not always directly altering opinions the impact it can have on the way in which information is processed should not be underestimated. For example, within the given context of climate change which involves a high degree of complexity one can expect the emphasis the media puts on certain aspects of the problem - sometimes even unintentionally - to play a significant role. Consequently, this means that even if the scientific community is able to form a consensus on appropriate actions that have to be undertaken in order to address climate change, the message is likely not to be heard by the public if it is not adequately presented.

In line with the project's aims the relevant factors that constitute the influence media coverage can exert over the cognitive structure are to be identified by the use of an experimental approach.

**"The acceptability of geoengineering will be determined as much by social, legal, and political issues as by scientific and technical factors"**

*The Royal Society, Geoengineering the Climate: Science, Governance and Uncertainty, p. ix.*