

## **Abstracts**

### **Perceptions, knowledge, and practices towards global climate change (GCC): key trends and challenges**

#### **Public reflections on climate change and energy efficiency in post-socialist perspective<sup>1</sup>**

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The study provides holistic insights in the form of the case study on the Russian lay people versus expert community attitudes, behavioral practices and mitigation actions towards the climate change and energy efficiency. Based on the representative survey of the citizens, semi-structured interviews with key stakeholders and desk research of the secondhand sources, the research portrayed that public awareness about the climate change issues has been constantly raising. The given trend could be associated with an increased role of post-materialist values, recent extreme weather events amplified by wider media coverage, and by a greater prominence of climate change in international politics. However, some experts express skepticism towards climate change, which they rationalize by normal climate fluctuation processes over time and general mistrust on climate change data. Consistent with on-going climate research, the study portrays a discrepancy between the high concern on climate change and low environmental sound practices. The main barriers of behavioral contributes toward climate change for Russians are associated with external and internal barriers. Key internal barriers include lack of knowledge, uncertainty, paternalistic values and switch the responsibility of a healthy environment from themselves to the governmental officials. Main structural barriers include the underprivileged role of climate change for the Russian government, resource-driven economy, undeveloped environmental infrastructure and poor execution of environmental legislation that could create the feeling of cynicism and fatigue among citizens. Thus, both experts and population prioritize legislative improvement and its constant adaptation to the current climate processes as a productive climate change mitigation and adaptation action.

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## **Can mechanistic explanation make people with low level of knowledge see their ignorance? Exploring Dunning-Kruger effect in the domain of global climate change.<sup>2</sup>**

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Dunning-Kruger effect (D-K) is a cognitive bias which makes people low in some ability, such as knowledge, overestimate their competence due to lack of meta-cognitive skills that would allow them to see their ignorance (Kruger & Dunning, 1999). Since knowledge of the mechanism of GCC is generally very low in non-experts (Ranney and Clark, 2016), D-K should be heavily present in this domain. We hypothesize, that presence of D-K (1) will generally make people overestimate their knowledge of GCC and that (2) this bias will be strongest among those with lowest level of actual knowledge of GCC. We also hypothesize that (3) inability to see one's own ignorance is related to the vigor with which one defends contrarian views on anthropogenic GCC and that (4) this bias can be reduced through provision of accurate information about the mechanism of GCC.

To test our hypotheses, we conducted two studies. In Study 1 we used a validated Rasch-calibrated scale of mechanistic knowledge of GCC (Urban, Skalík, Chabada and Havránek, in preparation) to analyze the relationship between the subjective and objective knowledge of the mechanism of GCC using a sample of participants recruited from a proprietary Internet panel (N = 300). Study 2 (N = 300) was a web-based experiment which manipulated mechanistic knowledge of GCC by exposing participants in the experimental group to a 3-minute video that provided mechanistic explanation of GCC, whereas participants in the control group viewed unrelated video about popularization of science. Subjective and objective knowledge of GCC was then assessed using the same measures as in Study 1.

Results of both studies supported expectations derived from D-K only partially. As hypothesized, ignorant people overestimated their knowledge of GCC and the degree of this bias was related to the vigor with which they defended contrarian views and held negative attitude to GCC. However, we also found that the most knowledgeable tended to underestimate their knowledge, which cannot be explained through D-K mechanism. In addition, we found that provision of accurate information about GCC did not reduce the knowledge bias related to D-K (as it led to an increase in both subjective and objective knowledge of GCC) but that it affected positively attitude to GCC. These results corroborated existence of the systematic gap between objective and subjective knowledge of GCC but also showed that this gap is most likely not due to the lack of metacognitive skills.

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## **Public perception of climate change in the Czech Republic: the role of gender and previous experience<sup>3</sup>**

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The contribution summarizes findings of a study focusing on the perception of climate change among the Czech citizens. This study examines main socio-demographic factors and the role of previous personal experience with extreme weather events on climate change perception and engaging in individual adaptation and mitigation actions among general population in the Czech Republic. The online survey was conducted among 1,024 Czech citizens in 2014. Based on statistical analysis, gender, age and previous experience with extreme weather events have been found to play significant role in climate change beliefs of individuals and in the perception of the cause of changing climate. The analysis revealed that respondents with previous experience of extreme weather event were significantly more likely to implement adaptation and mitigation actions than respondents with no experience.

This survey presents insights into climate change perception and beliefs of general public in the Czech Republic that have not been to this extent investigated before. Provided results can support decision making regarding adaptation policy, individual adaptation actions, as well as communication of the climate change issues towards broad public. We complement result of this general study by insights from the farmer's perceptions of climate change and their willingness to adapt and accept adaptation measures. We also discuss the perception of climate change in the context of climate change adaptation strategies, especially in Czech cities, and application of participative methods. We interpret our findings with regard to some recent theories of climate change perception.

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