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Misconceptions about climate change: Opportunities or obstacles?

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Misconceptions have long been an exciting and thoroughly studied topic of science education research. In our study we analyzed the climate and climate change related misconceptions of Hungarian primary and secondary school students (Ntotal=498) in the context of a comparative, cross-sectional analysis employing both qualitative and quantitative approaches. After identifying and categorizing the misconceptions found in the students' answers, we performed statistical calculations to reveal any significant differences concerning some selected variables. Our main findings are as follows: 1) No significant difference was found regarding gender. 2) Significant differences were found concerning age and one specific source of geographical information (out of a total of nine information sources), and that is teacher's explanation. 3) Finally, no direct relationships were found between misconceptions and any of the following variables: school marks, subject preference, and the importance of the topic. Based on our results, we argue that the formation of a correct conceptual system is the result of active and meaningful teaching and learning processes, in which students can acquire transferable knowledge that can be used in other areas of their everyday life and/or future work. However, if conceptual change does not happen, misconceptions may persist, or even intensify, and then they become a real problem as they may later hinder the development of climate change awareness.