

# The contributions of explanation simplicity and source expertise to evaluations of disagreeing explanations

Rina Miyata Harsch

University of Minnesota, Minneapolis, Minnesota, United States

Panayiota Kendeou

University of Minnesota, Minneapolis, Minnesota, United States

## Abstract

Learning about complex, scientific topics often involves reading competing explanations posited by multiple disagreeing sources. This necessitates comprehending both explanations, understanding the extent of their disagreement, and determining which is more likely. In a series of three experiments, we investigated the role of features of explanations and their sources in readers' evaluations of the explanations. Specifically, we presented participants with pairs of disagreeing explanations that varied in their simplicity, the expertise of their source, and the salience of each feature. We examined the extent to which these features individually and interactively affected readers' evaluation of explanations, the causes they attributed to the disagreement, and curiosity about the topic of disagreement. We also examined the role of individual differences between readers, namely their prior topic knowledge and trust in science, in these outcomes. The findings inform theory about how people evaluate explanations and learn about science.