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Investigating our ability to distinguish the strength of different types of arguments

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Why do poorly justified and misleading arguments appeal to people, to some more than others? Being able to distinguish well-justified arguments from weakly justified arguments is crucial for avoiding misinformation, for academic success, and for informed citizenship. However, the cognitive abilities involved in argument literacy, and the moderating role of individual differences in cognition, are poorly understood.

Previous studies indicate that argument literacy increases with intellectual values and decreases with trust in intuition. However, previous research was unspecific in terms of the types of arguments involved. Drawing on the pragma-dialectic argumentation theory, we distinguish the four main types of arguments that occur in everyday discourse, and that present cognitively dissimilar tasks to the reasoner: arguments from consequence, analogy, authority, and symptoms. We investigated whether the ability to distinguish argument strength on each of these argument types separately covaries with demographic and cognitive variables.

We constructed the Argument Strength Discrimination Task (ASDT), a survey-based measure scalable for large samples. In our study ($N = 285$), adult participants numerically rated the strength of 80 arguments on everyday topics. The correlation of a participant's ratings with the mean ratings of an expert panel made up the participant's score. We calculated an overall ASDT score and scheme-specific scores. Scores were unrelated to demographic factors, intuitive thinking style, overconfidence, and self-rated mental effort in argument evaluation. Scores correlated positively with analytic thinking styles. However, evaluating causal (consequence) arguments was unrelated to analytic thinking styles. These findings indicate that learning to evaluate the strength of causal arguments may profit from different educational interventions than learning to evaluate other arguments.

We also present the ALT16, a short version of the assessment measure, which takes 15 minutes to complete. We propose the ALT16 as a quick and easy measure for researchers doing large-sample research on argument literacy.