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Thema: Mental Models: Theory and applications

Mental model theory is about the ways in which we systematically tend to reduce the information when we represent it in order to make judgements. One consequence is, that when we search information in order to make a decision, we tend to explore just one alternative only. When we make inferences we tend to focus on what is true, without representing what is false. The nature of representations has consequences when we have to judge the consistency of assertions.

Reasoners succumb to predictable illusions in evaluating whether sets of assertions are consistent.

Moreover, when participants evaluate explanations for inconsistencies they use their casual knowledge. An ideal explanation is a chain of a cause and an effect, where the effect explains the inconsistency. According to mental model theory, individuals who are unfamiliar with the probability calculus, construct mental models of what is true in the various possibilities. Each model represents an equiprobable alternative unless individuals have beliefs to the contrary, in which case some models will have higher probabilities than others. The probability of an event depends on the proportion of models in which it occurs. Mental models theory predicts certain cognitive illusions in inferences about relative probabilities and dispels some common misconceptions of probabilistic reasoning.

References

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