Strategy Changes as a Function of Task Complexity in Causal Structure Learning

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Abstract: The authors previously demonstrated that people emphasized covariation rather than temporal order as a clue to inferring causal structure, whereas Lagnado and Sloman (2006) showed the opposite results that temporal order overrode covariation. The authors proposed the interpretation that these conflicting findings resulted from task complexity, since covariation becomes more complicated as the number of variables increases, and investigated the relationship between the number of variables which constituted causal structures and the use of two types of cues (i.e., covariation and temporal order). The experimental results revealed the increasing use of temporal order as a function of the number of variables. Although several models of causal structure learning use either of two types of cues, the present study indicates the necessity to integrate covariational information and temporal order information.