

## **Second-Order Bias-Corrected AIC for Selecting Structural Equation Models**

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The Akaike's information criterion (AIC) is widely used for selecting the best model among all candidate models. However, it is well known that AIC has a large bias when there are many parameters in the candidate models. Such biases associated with AIC often lead to a poor decision. That is, AIC tends to choose the model with many parameters as the best one. Under such circumstances, a bias correction is a useful method to avoid the serious problem. In this paper, we discuss the bias correction of AIC for selecting a structural equation model (SEM) when the distribution of observations is normal. We investigate a bias term by expanding the bias of AIC up to the second order. By adding this bias term to AIC, we propose a bias-corrected AIC (corrected AIC; AICc). We verify that our AICc performs better than AIC through numerical experiments for model selection with SEMs.