

## Abstract

The proposed study will develop a theoretical framework that clarifies the existing ambiguity in distinguishing between mediated moderating (meMO) psychological processes from moderated mediating (moME) processes and develop the statistical procedures and a software package to test meMO. There is always some confusion between meMO and moME in the existing literature. Whereas some researchers have proposed that meMO and moME share the same statistical model, others have advocated that the study of meMO is meaningless, as the process is defined as the mediation of an interaction term, which does not carry any substantial meaning. The controversy about the meaning of meMO has led to a misinterpretation of the psychological processes in the applied literature. The proposed work will solve this controversy and overcome the limitations of the existing theoretical framework for distinguishing between meMO and moME. In this proposed study, I will first introduce a new theoretical framework for the analysis of meMO. Second, I will propose a unified analytical procedure for studying the meMO process under different model conditions (including multi-group comparison) by using structural equation modeling (SEM). Third, a series of simulation studies will then be conducted to test the performance of the proposed statistical method as compared with the existing method for estimating and testing the meMO effects. Finally, I will develop Variable System, an add-on package in R system for statistical computing to aid applied researchers to implement the proposed statistical procedure in SEM. The results of this project will provide an important and robust statistical paradigm for understanding human processing of learning and social behaviours. Since many psychological processes can be modelled by meMO, a clear statistical procedure such as the one proposed in this study is necessary to advance psychological research.