Abstract of thesis entitled:

Comparing Standardized Indirect Effects in Structural Equation Modeling

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Psychologists are interested in asking questions that involve the comparison of indirect effects both within a sample and between samples. Nevertheless, when the equality of indirect effects is tested in structural equation modeling (SEM), such effects are usually compared without standardization. It is known that comparison of indirect effects will only be sound when the variables are in the same metrics. Otherwise, the result by imposing equality constraints on unstandardized model parameters may be misleading. The rare practice for researchers to compare the standardized indirect effects may be due to limited research work on this topic. The current study aims to propose a method to compare the standardized indirect effects in SEM. On the basis of the sequential model fitting method proposed by Chan (2007), this study attempts to extend the reparameterization technique on standardization of the model parameters and subsequent comparison of the standardized indirect effects. Three examples are given to illustrate how to apply the method using EQS. The results were found to be perfectly comparable with the results derived by LISREL.

摘要

心理學家在一些研究上會對同樣本或多樣本的間接效果 (indirect effects) 作出比較，可是在大部份情況下間接效果在結構方程模型 (structural equation modeling, SEM) 上的比較都未被標準化 (standardized)。一般而言，除非變量是以同一測量單位量度，否則對未標準化的間接效果作出比較可能會得出誤導的結果。研究者甚少作出標準化的間接效果比較可能是因為有關標準化間接效果比較的方法的研究有限，因而未有為研究者提供一個簡便的方法去實行檢測。所以這項研究的目的是建議一個在結構方程模型檢測相等標準化間接效果的方法。這項研究以 Chan's (2007) 的 sequential model fitting method 為基礎，將重新參數化 (reparametrization) 的技巧應用在標準化模型參數及非綫性標準化間接效果的比較上。本研究以三個範例說明如何把這個方法應用於 SEM 程式 EQS 上，研究顯示得出的結果和另一程式 LISREL 得出的結果一致。