Abstract of thesis entitled:
A Structural Equation Modeling Approach for the Analysis of Mediated Moderation and Moderated Mediation
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Moderation and mediation analyses are widespread in psychological research. Moderation occurs when the direction and/or strength of the relation between an independent variable and a dependent variable depends on the level of a moderating variable. Mediation, on the other hand, occurs when the effect of an independent variable on a dependent variable is transmitted through a mediating variable (Baron & Kenny, 1986). Psychologists often move beyond these two processes and ask more complex questions such as how a moderating effect takes place or when a mediating process varies in different contexts. The former question has been referred as mediated moderation while the latter one has been referred as moderated mediation. Despite the fact that there are many discussions about the analysis of mediated moderation and moderated mediation in the literature, the confusion over the interpretation of these two processes persists. In addition, the SEM method, which is known to be more flexible than traditional regression method for the analysis of mediated moderation and moderated mediation is rarely discussed in the literature. In response to these issues, the main objective of the present study was to examine the methods for the analysis of mediated moderation and moderated mediation in the SEM framework. The first part of this study resolved the confusion over the current interpretation of the mediated moderation and moderated mediation by demonstrating these two processes using five typical conceptual models of mediated moderation and moderated mediation. In the second part, a new unified method was proposed to provide some general rules for translating the conceptual models of mediated moderation and moderated mediation into the SEM working models. The empirical performance of SEM analysis against regression analysis was assessed by a simulation study. Results showed the two methods performed similarly across different model conditions. In the last part, the unconstrained indicant product approach (Marsh, et al., 2004) for latent moderation analysis was introduced and combined with the unified approach for the analysis of latent variable mediated moderation and moderated mediation models. Simulation

findings suggested that this method performed satisfactorily for testing mediated moderating and moderated mediating effects in most simulation conditions. However, chi-square statistics for the evaluation of model fit should be used with cautious as simulation results indicated that they were not accurate in most cases.

中介效應和調節效應分析在心理學研究中廣泛存在。調節效應發生時，自變量和因變量的關係的強度或方向會因調節變量的水平而有所改變。另一方面，中介效應發生時 ， 自變量會通過中介變量對因變量來產生影響 (Baron & Kenny, 1986)。心理學家經常結合這兩種效應以處理更複雜的問題，例如: 調節作用是如何發生或中介作用在什麼情況會下有所改變。研究學者定義前者為有中介的調節作用，後者為有調節的中介作用。儘管在文獻中有許多關於有中介的調節效應和有調節的中介效應的分析方法的討論, 對於理解這兩種效應的混亂仍然存在。此外，結構方程模型分析方法雖然比傳統的迴歸分析方法更靈活和有效地處理這兩種效應的分析，但是文獻上卻甚少討論如何應用結構方程模型於有中介的調節作用和有調節的中介作用的分析上。 本論文回應以上提出的問題，主要討論如何把結構方程模型的分析方法應用在有中介的調節效應和有調節的中介效應的分析上，論文的第一部份會透過闡明五種常見有關於有中介的調節效應和有調節的中介效應的概念模型以消除研究學者對這兩種效應定義的誤解 。在論文的第二部分將會提出一個用以轉換有中介的調節效應和有調節的中介效應的概念模型為能應用於結構方程模型分析法上的模型的統一方法，讓研究學著能跟著統一方法中提出的規則簡易地把假設模型變成為可為結構方程模型作分析的模型。模擬實驗來比較迴歸方法和結構方程模型方法的實際效用。結果顯示，這兩種分析方法表現相近。論文最後的部份，引入用於潛變量調節作用分析上的 unconstrained indicant product approach (Marsh et al., 2004), 並結合本文提出的統一方法來分析有中介的調節作用和有調節的中介作用，模擬實驗結果顯示這種方法在大多數的模擬情況下表現令人滿意。然而，以評估模型擬合度的卡方檢定在模擬實驗的大多數情況中都並不準確, 因此研究學者應謹慎處理卡方檢定。