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論文題目：

測量選擇和偏好的派典決斷：李克特量表、
比較判斷、或綜合模型？以學業歸因為例

主要貢獻：

本研究主要貢獻在兩方面，分別是對心理計量方法上之貢獻：提出並改善結合「李克特量表」與「比較判斷」之「聯合 Thurstonian 模型族」；對學業歸因理論之貢獻，發現情緒和運氣歸因對於學習適應的獨特解釋力，挑戰現有聚焦於努力與能力的歸因理論框架。

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論文摘要

在社會科學領域中，準確測量個體在不同選項間的偏好至關重要，李克特量表（Likert Scale, LS）與比較判斷（Comparative Judgment, CJ）是兩種常用的測量方法。李克特量表因為廣為人知且易於使用而被廣泛採用；比較判斷則提供了更直接的偏好測量。然而，比較判斷因其強迫選擇的特性，其估計分數的可解釋性受到限制。Böckenholt（2004）及後續研究者提出了結合李克特量表與比較判斷資料的模型，以發揮兩種測量方法的優勢。儘管有這些重要進展，先前研究中使用的這類聯合 Thurstonian 模型（Joint Thurstonian models）仍無法適當地處理序數尺度資料、無法考慮題目參數和閾值的異質性，亦無法偵測李克特量表與比較判斷資料間的潛在差異。為了解決這些限制，我們開發了一系列聯合 Thurstonian 模型，包括聯合 Thurstonian 試題反應理論模型（JT-IRT）、聯合 Thurstonian 非加成性概推度理論模型（JT-NAGT）和聯合 Thurstonian 可加成性概推度理論模型（JT-AGT），並檢驗這些新模型在學業歸因測量上的適用性和效度。為達成此目標，我們招募大學生針對真實的重要學業成功或失敗經驗（期中考考好或考壞）提供多重學業歸因（成功組 $n_{\text{成功}} = 396$ 人；失敗組 $n_{\text{失敗}} = 330$ 人）。除了常見的努力和能力歸因外，本研究還納入了其他歸因類型，包括考試難度、運氣和情緒。我們使用不同的心理計量模型：從 LS 資料、CJ 資料，或結合兩者的資料中產生不同指標，隨後使用前進選擇法進行「與理論相關構念的聚合與區辨效度分析」（包含智力內隱理論與成就目標取向），以及「與學習適應的效標關聯效度分析」（包含憂鬱情緒、拖延閒混及自我設限），以檢視不同指標之效度。結果顯示：在成功和失敗歸因情境中，基於概推度理論之聯合 Thurstonian 模型（JT-AGT 和 JT-NAGT）顯著優於傳統的 Böckenholt 模型，JT-NAGT 在成功情境中表現最佳，而 JT-AGT 在失敗情境中展現優勢，但這兩者的模型適配度依然不若 LS 與 CJ 分離建模

之結果。效度分析顯示：能力和努力歸因主要透過 LS 與效標相關，而運氣歸因則多透過 CJ 與效標相關；情緒和運氣歸因展現出比傳統強調的能力歸因更強的解釋力。並且，聯合 Thurstonian 指標展現出超越個別 LS 或 CJ 的顯著增益效度，顯示整合測量方法能捕捉到單一測量工具無法表徵的獨特變異。這些發現挑戰了當今聚焦於努力與能力歸因之歸因理論，並指出心情和運氣等歸因在歸因研究中具有無法被忽略的解釋力，這代表研究者需採用多種測量方法與多重歸因來掌握學業歸因與適應之間的複雜關係。

關鍵詞：學業歸因、比較判斷、聯合 Thurstonian 模型、李克特量表、測量效度、Böckenholt 模型。

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成就動機理論、學業歸因理論

心理計量學

比較判斷方法學、模型可辨識性理論

發表作品

期刊論文

1. **Cheng, C.**, Yang, H.-H., & Hsu, Y.-F. (2025). Identifiability of Polychoric Models with Latent Elliptical Distributions. *Psychometrika*, 90(2), 757–778. <https://doi.org/psy.2024.25>
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國際會議報告

1. **Cheng, C.**, Yang, H.-H., & Hsu, Y.-F. (2025, October 18–19). *The universal Cramér-Rao lower bound: A genuine efficiency criterion for both biased and unbiased estimators* [Oral presentation]. The 64th Annual Convention of Taiwanese Psychology Association, Tainan, Taiwan.
<https://www.tpa-tw.org/2025main>
2. **Cheng, C.**, Lay, K.-L., Yang, H.-H., & Hsu, Y.-F. (2025, May 1–3). *A methodology for addressing the biases resulted in ipsative placement of Q-sort items* [Poster presentation]. SRCD 2025 Biennial Meeting, Minneapolis, Minnesota, USA. <https://www.srcd.org/event/srcd-2025-biennial-meeting/>
3. **Cheng, C.**, Yang, H.-H., & Hsu, Y.-F. (2025, August 29–September 1). *When the test information curve misleads: Exact bias, SE, and RMSE curves in item response theory* [Oral presentation]. The 53rd Annual Meeting of the Behaviormetric Society, Kanagawa, Japan.
<https://conference.wdc-jp.com/bms/2025/index.html/>
4. **Cheng, C.**, Yang, H.-H., Hsu, Y.-F., & Lay, K.-L. (2025, September 7–9). *Paradigmatic decisions for measuring choices and preferences: Likert scales, comparative judgments, or combined models? Using academic attribution as an example* [Poster presentation]. The 89th Annual Convention of the Japanese Psychological Association, Sendai, Japan.

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 6. **Cheng, C., Yang, H.-H., & Hsu, Y.-F.** (2024, September 6–8). *On the existence and uniqueness of polychoric correlations* [Poster presentation]. The 88th Annual Convention of the Japanese Psychological Association, Kumamoto, Japan. <https://pub.conf.it.atlas.jp/ja/event/jpa2024/>
 7. **Cheng, C., Yang, H.-H., Hsu, Y.-F., & Lay, K.-L.** (2024, October 26–27). *Two are better than one: Incorporating Likert scale and comparative judgment data in joint Thurstonian models* [Oral presentation]. 2024 Taiwanese Psychology Association Convention, Taipei, Taiwan. <https://www.tpa-tw.org/2024main/>
 8. **Cheng, C., Yang, H.-H., Lay, K.-L., & Hsu, Y.-F.** (2024, June 16–20). *Predetermined R-squared: An index of later development determined by the past* [Poster presentation]. 27th Biennial Meeting of the International Society for the Study of Behavioural Development, Lisbon, Portugal. <https://2024biennial.issbd.org/>
 9. **Cheng, C., Yang, H.-H., & Hsu, Y.-F.** (2024, July 16–19). *On the existence, uniqueness, and finiteness of MLE of the ability in IRT* [Poster presentation]. International Meeting of the Psychometric Society 2024, Prague, Czech. <https://www.psychometricsociety.org/annual-meeting/>
 10. Yang, H.-H., **Cheng, C., & Hsu, Y.-F.** (2023, August 25–28). Estimates of standard errors and confidence intervals for the ability parameter in the 2PL model with fast and exact parametric bootstrap [Poster presentation]. International Meeting of the Psychometric Society 2023, College Park, Maryland, United States. <https://www.psychometricsociety.org/annual-meeting/>
 11. **Cheng, C., Yang, H.-H., & Hsu, Y.-F.** (2023, August 25–28). *Identifiability of polychoric models with latent elliptical distributions* [Oral presentation]. International Meeting of the Psychometric Society 2023, College Park, Maryland, United States. <https://www.psychometricsociety.org/annual-meeting/>
 12. Lay, K.-L., **Cheng, C., & Huang, S.-Y.** (2021, April 7–9). Associations of parental mastery and performance goal orientations and preschoolers' mastery motivation. In W. Wang (Chair), *Understanding the origins, determinants, and consequences of children's mastery motivation: A developmental approach* [Symposium]. SRCD 2021 Biennial Meeting,

- Virtual. <https://www.srcd.org/event/srcd-2021-biennial-meeting>
13. **Cheng, C., Lay, K.-L., & Hsu, Y.-F.** (2020, November 18). *Can Likert scales predict choices? Explaining the incongruence between Likert-scale and comparative-judgment predictions based on a joint Thurstonian IRT model* [Poster presentation]. The 8th Annual Academic Conference on Psychology at NTU, Taipei, Taiwan.
 14. **Cheng, C., Lay, K.-L., Lin, C. Y., Li, Y. Y., Chang, T. C., Yang, L. J., Chen, H. T., & Wang, Y. J.** (2019, August 29–31). *Differential SEL effect for children with diverse initial states: II. the communication-skill curriculum designed by Taiwan happiness village association* [Poster presentation]. 7th ENSEC Conference, Budapest, Hungary. <https://ensec2019.elte.hu/>
 15. **Cheng, C., Lay, K.-L., & Hsu, Y.-F.** (2018, May 21–25). *華人真的最希望自己是個努力的人嗎？以次序成對比較探討學生之「理想我」與「應該我」* [Oral presentation]. 2018 Academic Conference of Psychology Departments from National Taiwan University, Peking University, and The Chinese University of Hong Kong, Hong Kong, China.

學術榮譽與獎項

1. 國科會「博士論文獎(獎勵博士候選人撰寫博士論文)」
(補助期間 2024 年 7 月-2025 年 7 月)
2. 獲「114 年度蘇薌雨教授心理學博士學位論文獎」
3. 鄭昭明教授紀念獎學金 (因發表期刊論文 1於心理計量頂尖期刊 *Psychometrika* 對於心理計量領域之研究貢獻而獲獎)
4. 理學院院長獎 (博士班)
5. 國科會「補助國內研究生出席國際會議」四次補助 (補助年度為 2019、2023、2024、2025，分別為國際會議報告 2、8、11、14)
6. 楊國樞教授紀念獎學金 (補助出席國際會議報告 9)
7. 第七屆中華心理學刊論文獎「年度最佳論文獎」(期刊論文 4)