第十六篇：

Construct Validity, Criterion Validity, and Internal Consistency of GOT-Cog© a Novel Occupational Therapy Cognitive Screen

研究目的彙整

本研究的主要目的在於驗證名為Gaylord Occupational Therapy Cognitive (GOT-Cog)的新型全面性認知篩檢工具的心理計量特性。這是一個專門針對**長照急性後期醫院 (Long-term acute-care hospital, LTACH)**環境所開發，旨在評估病人「功能性認知」的工具，以輔助職能治療的介入計畫設計。

具體而言，本研究明確提出了以下四個核心目標：

- **評估建構效度 (Construct Validity)**：驗證該量表是否能有效測量其核心概念——「功能性認知（Functional Cognition）」，即認知技能與日常生活活動（ADL/IADL）之間的交互作用。

- **評估效標關聯效度 (Criterion Validity)**：將 GOT-Cog 與臨床常用的標準化量表「聖路易大學精神狀態檢查 (SLUMS)」進行比較，確認兩者得分之間的相關性，以建立其效標效度。

- **評估內部一致性信度 (Internal Consistency Reliability)**：分析量表中各項評估內容是否能一致地反映出相同的受測特質（即功能性認知的不同面向）。

- **建立切截分數 (Cut-off Scores)**：透過統計分佈建模，為 GOT-Cog 建立臨床決策的標準，以便職能治療師能將病人的缺損程度區分為無、輕微、中度或嚴重缺損。

本研究的核心意圖是為了解決現有工具（如 MoCA 或 SLUMS）過於偏重記憶力篩檢，而無法充分評估住院病人在執行功能性任務時之認知能力的不足。

GOT-Cog 研究結果彙整

1. 效標關聯效度與建構效度 (Criterion & Construct Validity)

研究結果顯示 GOT-Cog 與 SLUMS 總分之間存在顯著的正相關，證明其具有良好的效度。

- **總分相關性**：GOT-Cog 與 SLUMS 的總分呈強正相關 (r=.7492,p<.0001) 。

  "Total GOT-Cog and SLUMS scores positively correlated (p < .0001)." / "GOT-Cog and SLUMS total scores, regardless of education level, were significantly positively correlated (rpb = .749, 95% CI [.647, .825], p < .0001)."

- **領域相關性**：兩者之間所有共同領域均呈顯著相關 (p≤.0155) 。此外，GOT-Cog 獨有的領域（分散注意力與序列）也與兩份量表的總分顯著相關 (p≤.0194) 。

  "All shared domains between GOT-Cog and SLUMS were significantly correlated (p ≤ .0155) similarly, all unique domains showed significant correlations with both GOT-Cog and SLUMS total scores (p ≤ .0194)."

2. 完成時間 (Completion Time)

雖然 GOT-Cog 比 SLUMS 多出 11 個題目，但實際施測時間僅平均多出約 6 分鐘。

- **測驗時長**：GOT-Cog 平均為 16.4 分鐘，SLUMS 平均為 10.5 分鐘。

  "Despite having 11 more items, GOT-Cog took only 6 min longer to complete (10 vs. 16 min; p < .0001)"

3. 內部一致性信度 (Internal Consistency Reliability)

兩份量表在 LTACH 病人族群中均表現出足夠的內部一致性。

- **信度表現**：研究分析認為 GOT-Cog 的內部一致性是足夠的。

  "Both demonstrated adequate internal consistency." / "Together, the internal consistency of the GOT-Cog was found to be sufficient."

4. 教育程度影響 (Education Effects)

研究發現教育程度對於 GOT-Cog 或 SLUMS 的得分均無顯著影響。

- **無教育效應**：GOT-Cog 分數與教育程度之間無顯著相關 (p=.4469)。

  "No significant correlation between education level and total score was observed for the GOT-Cog (rpb = .077, 95% CI [−.123, .272], p = .4469)."

5. 建議之切截分數 (Recommended Cut-off Scores)

透過引導分佈建模（Bootstrap distribution-based modeling），研究建立了 GOT-Cog 的功能性認知缺損分級方案：

功能性認知缺損程度	GOT-Cog 分數範圍 (總分 34)	原文引用
無或極輕微 (Minimal/None)	30 – 34	"...those with scores ranging from 30 to 34 should be considered to have minimal or no deficits..."
輕度 (Mild)	26 – 29	"...those with scores ranging from 26 to 29 should be considered to have mild deficits..."
中度 (Moderate)	22 – 25	"...those with scores ranging from 22 to 25 should be considered to have moderate deficits..."
嚴重 (Severe)	0 – 21	"...patients with GOT-Cog scores ranging from 0 to 21 should be considered to have severe deficits..."

GOT-Cog 研究結論彙整

1. 心理計量特性之驗證 (Validity and Reliability)

本研究證實 GOT-Cog 具有強大的效度與信度，足以作為評估功能性認知的工具。

- 效度 (Validity)：研究顯示 GOT-Cog 具有良好的建構效度與效標關聯效度，能有效反映受測者的功能性認知狀態。

    原文引用："The GOT-Cog has overall strong construct and criterion validity." / "Together, these analyses indicate that the GOT-Cog has overall strong criterion and construct validity."

- **信度 (Reliability)**：該量表在內部一致性分析中表現良好，各項目間展現出足夠的連貫性。

  > **原文引用**："Both demonstrated adequate internal consistency." / "Together, the internal consistency of the GOT-Cog was found to be sufficient..."

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2. 臨床應用價值與獨特性 (Clinical Utility)

GOT-Cog 被定位為首款專為特定住院環境設計的職能治療認知篩檢工具。

- **環境針對性**：它是第一個針對長照急性後期醫院 (LTACH) 環境標準化開發的職能治療認知篩檢量表。

  > **原文引用**："To our knowledge, the GOT-Cog is the first standardized occupational therapy cognitive screen specifically designed for the inpatient LTACH setting."

- **功能性導向**：與傳統量表不同，GOT-Cog 側重於在功能性任務背景下評估認知，更能協助職能治療師制定介入計畫。

  > **原文引用**："The GOT-Cog focuses on screening cognition through functional tasks and in the context of patient's daily activities..." / "This measure will provide therapists with a functionally based screen to capture any areas of concern and assist in treatment planning."

- **介入指引**：該量表結果可用於引導職能治療計畫、協助出院規劃，並作為是否需要轉介語言治療或神經心理評估的依據。

原文引用："The results of this screening tool are intended to guide the occupational therapy plan of care; assist with discharge planning; and flag the need for additional services..."

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3. 未來研究方向 (Future Directions)

雖然初步驗證成功，但研究者指出仍有後續工作需要完成以完善此工具。

- **評分者間信度與反應性**：未來研究將評估施測者之間的一致性 (Interrater Reliability) 以及量表對臨床變化的敏感度 (Responsiveness) 。

  原文引用："Going forward, we will evaluate the rater reliability and responsiveness of the GOT-Cog." / "Future studies will evaluate the interrater and intrarater reliability and responsiveness of this new cognitive screen."

GOT-Cog 研究限制彙整

本研究指出了幾個關鍵的限制，讀者在解釋研究結果或於臨床應用時應予以考量：

- **場域與族群侷限性**：本量表僅在長照急性後期醫院（LTACH）場域中進行驗證，因此其結果可能無法直接推廣至急性醫院、復健設施、護理之家或門診環境。

  原文引用："...the GOT-Cog has only been validated for the LTACH population; therefore, it may not be valid to use in acute-care hospitals,

inpatient rehabilitation facilities, skilled nursing facilities, and outpatient settings, and additional work is needed."

- **效標量表的性質差異**：作為對照標準的 SLUMS 主要針對社區型失智症患者設計，雖然在住院環境中被廣泛使用，但將其與 GOT-Cog 進行比較並非完全對等的比較。

    原文引用："...the SLUMS was primarily designed for the people in the community-dwelling population who are facing dementia diagnoses. ...a comparison of the GOT-Cog with the SLUMS is not an exact comparison, despite their similarities."

- **施測時間間隔導致資料流失**：兩次評估之間要求的 22 至 26 小時時間間隔，導致部分受試者因未能符合此時間條件而造成資料流失。

    原文引用："...the timing of the administration of the second screen was 22 to 26 hr after the initial assessment; as a result, several datasets were lost because of inaccurate timing between the two measures to meet study criteria."

- **切截分數的統計方法限制**：由於 GOT-Cog 與 SLUMS 的總分標尺不同，無法進行敏感度與特異度測試，因此使用了引導分佈法（Bootstrap distribution method），這高度依賴於本研究的 98 位參與者樣本數據。

    原文引用："...sensitivity and specificity testing could not be conducted, and a bootstrap distribution method had to be used to develop cutoff criteria for the GOT-Cog. This heavily relies on the population data, so our datasets from 98 participants dictated what the bootstrap distribution looked like..."

- **缺乏正式的評分者信度測試**：在進行效度驗證之前，尚未針對 SLUMS 或 GOT-Cog 進行正式的評分者信度（Rater reliability）測試。

    原文引用："...the fifth limitation of the study was that rater reliability testing was not formally completed for either the SLUMs or the GOT-Cog before the validity testing was conducted."

- **缺乏神經心理評估作為基準**：受試者未接受正式的神經心理評估以確立其潛在認知障礙，相關排除條件僅透過病歷回顧取得，因此 GOT-Cog 目前僅能作為篩檢工具，而非診斷工具。

    > 原文引用："Finally, participants were not given a formal neuropsychological assessment to establish whether they had any underlying cognitive disorders. ...the GOT-Cog can only be used as a screening tool to indicate the presence of cognitive domains of concern..."

學術意義與價值

- **填補特定臨床環境的工具缺口**：GOT-Cog 是首個專門為 LTACH 住院環境開發且標準化的職能治療認知篩檢工具。在此之前，學術界與臨床缺乏能充分涵蓋住院職能治療所需的全面性認知篩檢工具。

    > 原文引用："To our knowledge, the GOT-Cog is the first standardized occupational therapy cognitive screen specifically designed for the inpatient LTACH setting."

- **推動「功能性認知」的理論應用**：本研究回應了美國職能治療學會（AOTA）近年強調的「功能性認知」核心概念，將認知評估從單純的心理能力測試轉向「認知與日常生活活動交互作用」的實證研究。

- **心理計量特性的實證支持**：透過隨機交叉對照研究，為新工具提供了強健的建構效度、效標關聯效度及內部一致性證據，為後續相關學術研究奠定了基礎。

臨床應用、意義與價值

1. 提升職能治療介入的精確性

- **引導治療計畫**：GOT-Cog 的評估結果能直接指引職能治療的介入計畫，協助治療師識別病人具體的功能性障礙。

    > 原文引用："This measure will provide therapists with a functionally based screen to capture any areas of concern and assist in treatment planning."

- **功能背景下的評估**：與傳統工具相比，GOT-Cog 在功能性任務（如購物清單、藥物與金錢管理）中評估認知，更能真實反映病人在現實世界中的表現。

2. 優化出院規劃與病人安全

- **出院決策依據**：識別早期的認知缺損能協助管理團隊決定合適的出院地點，並預防出院後的失敗轉換或不穩定狀態。

    > 原文引用："...functional cognition and its benefits in occupational therapy treatment planning. Functional cognition is fundamental to achieve and maintain community placement, discharge stability, and prevent failed care transitions."

3. 跨專業協作與資源轉介

- **預警轉介機制**：該量表可作為「紅旗（flag）」，提醒治療師何時需要轉介病人至語言治療或神經心理學專科進行更深入的評估。

原文引用："...identify potential cognitive domains of concern, and indicate whether a patient may require further evaluation by neuropsychology or speech therapy..."

4. 符合法規與政策要求

- **落實 IMPACT Act 要求**：本工具的開發符合美國《改善醫療後期轉型法案》（IMPACT Act）對標準化病患評估數據（包括認知功能變化）的彙報要求。

  原文引用："The IMPACT Act requires skilled nursing facilities... and long-term acute-care hospitals to report standardized patient assessment data with regard to quality measures... This includes the standardization of... cognitive function for all patients."