

【第一題，本題佔 30%】

以下為 Koziol NA, Kretch KS, Harbourne RT, Lobo MA, McCoy SW, Molinini R, Hsu LA 等人發表於 *Pediatric Physical Therapy* 2023;35:293–302 的原始論文 **START-Play Physical Therapy Intervention Indirectly Impacts Cognition Through Changes in Early Motor-Based Problem-Solving Skills** 之著作摘要，請回答以下問題：

- (1) 最適合用以架構該研究問題的發展理論為何(5%)?並請敘明理由(5%)。
- (2) 最適合用以評估該研究方法與結果中所提及之發展參數的兒童發展評估工具為何(5%)?並請敘明理由(5%)。
- (3) 請簡述本研究的結果(5%)並闡明此項結果對於兒童發展理論與臨床服務的意義與應用為何(5%)?

Purpose: This study tested whether the Sitting Together and Reaching to Play (START-Play) physical therapy intervention indirectly impacts cognition through changes in perceptual-motor skills in infants with motor delays. **Methods:** Participants were 50 infants with motor delays randomly assigned to START-Play plus Usual Care Early Intervention (UC-EI) or UC-EI only. Infants' perceptual-motor and cognitive skills were assessed at baseline and 1.5, 3, 6, and 12 months post-baseline. **Results:** Short-term changes in sitting, fine motor skills, and motor-based problem-solving, but not reaching, predicted long-term changes in cognition. START-Play indirectly impacted cognition through motor-based problem-solving but not sitting, reaching, or fine motor skills. **Conclusions:** This study provided preliminary evidence that early physical therapy interventions that blend activities across developmental domains and are supported by an enriched social context can place infants on more optimal developmental trajectories.

【第二題，本題佔 35%】

請回答下列問題：

- (1) 請列出一項多面向兒童發展評估工具，並簡要說明其施測項目，與施測方法(15%)。
- (2) 請閱讀以下一篇有關於兒童論文摘要，請以中文 500 字簡述本研究的概況(10%)，請提出此研究的評估工具為何(10%)。

Aim: To determine if robotic assisted gait training (RAGT) using surface muscle electrical stimulation and locomotor training enhances mobility outcomes when compared to locomotor training alone in children with cerebral palsy (CP). **Method:** Forty children (18 females, 22 males; mean age 8y 1mo, SD 2y 1mo; range 5y 1mo-12y 11mo) with CP in Gross Motor Function Classification System levels (GMFCS) III, IV, and V were randomly assigned to the RAGT and locomotor training (RAGT+LT) group or locomotor training only group (dosage for both: three 1-hour sessions a week for 6 weeks). Outcomes were assessed at baseline T1 (week 0), post-treatment T2 (week 6), and retention T3 (week 26). The primary outcome measure was the Goal Attainment Scale. Secondary outcome measures included the 10-metre walk test, children's functional independence measure mobility and self-care domain, the Canadian Occupational Performance Measure, and the Gross Motor Function Measure.

Results: There were no significant differences between the groups for both the primary and secondary outcome measures. All participants completed the intervention in their original group allocation. There were no reported adverse events.

Interpretation: The addition of RAGT to locomotor training does not significantly improve motor outcomes in children with CP in GMFCS levels III, IV, and V. Future studies could investigate health and well-being outcomes after locomotor training. **What this paper adds:** Marginally ambulant and non-ambulant children with cerebral palsy can participate in locomotor training. Robotic assisted gait training when added to locomotor training does not appear to be any more effective than locomotor training alone. (摘要出自: Pool D, Valentine J, Taylor NF, Bear N, Elliott C. Locomotor and robotic assistive gait training for children with cerebral palsy. *Dev Med Child Neurol.* 2021 Mar;63(3):328-335.)

見背面

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國立臺灣大學 113 學年度碩士班招生考試試題

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【第三題，本題佔 35%】

請閱讀此篇論文摘要(出自 Int J Environ Res Public Health 2020 24;17(17):6143)，回答下面問題。

Autistic Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by persistent difficulties in communication and social interaction along with a restriction in interests and the presence of repetitive behaviors. The development and use of augmented reality technology for autism has increased in recent years. However, little is known about the impact of these virtual reality technologies on clinical health symptoms. The aim of this systematic review was to investigate the impact of augmented reality through social, cognitive, and behavioral domains in children and adolescents with autism. This study is the first contribution that has carried out an evidence-based systematic review including relevant science databases about the effectiveness of augmented reality-based intervention in ASD. The initial search identified a total of 387 records. After the exclusion of papers that are not research studies and are duplicated articles and after screening the abstract and full text, 20 articles were selected for analysis. The studies examined suggest promising findings about the effectiveness of augmented reality-based treatments for the promotion, support, and protection of health and wellbeing in children and adolescents with autism. Finally, possible directions for future work are discussed.

- (1) 請問此篇論文是屬於哪種類型的研究? (5%)，請簡要描述研究目的? (10%)
- (2) 若你要做一個有關兒童的早期介入研究計畫，請簡要說明研究設計，包含研究目的、研究對象、介入計畫內容、及實驗流程。(20%)

試題隨卷繳回