

【第一題，本題佔 35%】

1. 學術論文閱讀與解析- 請針對以下一篇刊載於物理治療期刊的文章，回答下列問題:

- (1) 請將本摘要翻譯為中文，限 250 個字以內。(20%)
- (2) 請採用國際功能分類系統(International Classification of Function, ICF)之作圖方式，整理出本摘要中提及的評估工具 (assessment tools)與測量(measures)所歸屬的向度與編號。(10%)
- (3) 請問你在上題所歸納的問題，尚有哪個向度的歸屬闕如?並請提出能夠評估該向度的方法。(5%)

摘要出自: Jeffrey W. Keller, Annina Fahr, Jan Lieber, Julia Balzer, Hubertus J.A. van Hedel. Impact of upper extremity impairment and trunk control on self-care independence in children with upper motor neuron lesions. *Physical Therapy & Rehabilitation Journal*. 2021;101: 1-11.

Abstract

Objective. The purpose of this study was to evaluate the relative importance of different approaches to measure upper extremity selective voluntary motor control (SVMC), spasticity, strength, and trunk control for explaining self-care independence in children affected by upper motor neuron lesions. **Methods.** Thirty-one patients (mean [SD] age = 12.5 [3.2] years) with mild to moderate arm function impairments participated in this observational study. Self-care independence was evaluated with the Functional Independence Measure for children (WeeFIM). Upper extremity SVMC was quantified with the Selective Control of the Upper Extremity Scale (SCUES), a similarity index (SISCUES) calculated from simultaneously recorded surface electromyography muscle activity patterns, and an accuracy and involuntary movement score derived from an inertial-measurement-unit - based assessgame. The Trunk Control Measurement Scale was applied and upper extremity spasticity (Modified Ashworth Scale) and strength (dynamometry) were assessed. To determine the relative importance of these factors for self-care independence, 3 regression models were created: 1 included only upper extremity SVMC measures, 1 included upper extremity and trunk SVMC measures (overall SVMC model), and 1 included all measures (final self-care model). **Results.** In the upper extremity SVMC model (total variance explained 52.5%), the assessgame (30.7%) and SCUES (16.5%) were more important than the SISCUES (4.5%). In the overall SVMC model (75.0%), trunk SVMC (39.0%) was followed by the assessgame (21.1%), SCUES (11.0%), and SISCUES (4.5%). In the final self-care model (82.1%), trunk control explained 43.2%, upper extremity SVMC explained 23.1%, spasticity explained 12.3%, and strength explained 2.3%. **Conclusion.** Although upper extremity SVMC explains a substantial portion of self-care independence, overall trunk control was even more important. Whether training trunk control and SVMC can translate to improved self-care independence should be the subject of future research. **Impact.** This study highlights the importance of trunk control and selective voluntary motor control for self-care independence in children with upper motor neuron lesions.

【第二題，本題佔 35%】

1. 請回答下列問題:

- (1) 請列出一項兒童發展評估工具，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%)。

摘要出自: Holger Gevensleben, Birgit Holl, Bjo'rn Albrecht, Claudia Vogel, Dieter Schlamp, Oliver Kratz, Petra Studer, Aribert Rothenberger, Gunther H. Moll, and Hartmut Heinrich. Is neurofeedback an efficacious treatment for ADHD? A randomised controlled clinical trial. *J child psychology and psychiatry*. 2009; 50: 780-789.

見背面

Abstract

Background: For children with attention deficit/hyperactivity disorder (ADHD), a reduction of inattention, impulsivity and hyperactivity by neurofeedback (NF) has been reported in several studies. But so far, unspecific training effects have not been adequately controlled for and/or studies do not provide sufficient statistical power. To overcome these methodological shortcomings we evaluated the clinical efficacy of neurofeedback in children with ADHD in a multisite randomised controlled study using a computerised attention skills training as a control condition. Methods: 102 children with ADHD, aged 8 to 12 years, participated in the study. Children performed either 36 sessions of NF training or a computerised attention skills training within two blocks of about four weeks each (randomised group assignment). The combined NF treatment consisted of one block of theta/beta training and one block of slow cortical potential (SCP) training. Pre-training, intermediate and post-training assessment encompassed several behaviour rating scales (e.g., the German ADHD rating scale, FBB-HKS) completed by parents and teachers. Evaluation ('placebo') scales were applied to control for parental expectations and satisfaction with the treatment. Results: For parent and teacher ratings, improvements in the NF group were superior to those of the control group. For the parent-rated FBB-HKS total score (primary outcome measure), the effect size was .60. Comparable effects were obtained for the two NF protocols (theta/beta training, SCP training). Parental attitude towards the treatment did not differ between NF and control group. Conclusions: Superiority of the combined NF training indicates clinical efficacy of NF in children with ADHD. Future studies should further address the specificity of effects and how to optimise the benefit of NF as treatment module for ADHD.

【第三題，本題佔 30%】

個案是一位 5 歲 9 個月大的女孩，因跑步常跌倒及執行手操作活動的速度和精確性跟不上同齡兒童，被家長帶來求診，此兒童的認知發展於魏氏幼兒智力量表的全量表智商為 88，屬於正常範圍的中下程度，然於「兒童動作評量表」總分落在小於第五的百分等級，符合發展性協調障礙(Developmental Coordination Disorder, DCD)的診斷標準，個案的動作能力評估如下：

個案連續單腳跳不超過 3 下，單腳站左腳與右腳皆僅能持續 5 秒，球類技巧及手部操弄靈敏度不佳，如：在投硬幣孔時對準的精確度低，偶爾能接住 1 公尺 來的球，但需經口頭提醒眼睛才會注視球，接球反應慢，媽媽抱怨個案每次跑步都會跌倒 3-4 次，通常是和小朋友邊跑邊玩的情況下比較容易發生 此外，個案在跑步 30 公尺後，就開始顯得步態不穩，個案做事緩慢，例如進行剪紙等活動，完成時間明顯比其他小朋友長，且表現較弱。

圖 1 [摘錄自物理治療期刊: 2013;38 (1):62-68]為應用「國際健康功能與身心障礙分類系統- 兒童及青少年版」分析個案的跑步易跌倒問題，請回答下列問題：

- (1) 若您是兒童的物理治療師，思考此個案的物理治療介入可能有哪些方向？(10%)
- (2) 呈上題，請為個案列出三個月的長期與短期治療目標。(10%)
- (3) 呈上題，欲達成以上目標，請設計一個治療活動，並說明治療中會應用哪些治療策略，協助個案達成目標。(10%)

接次頁

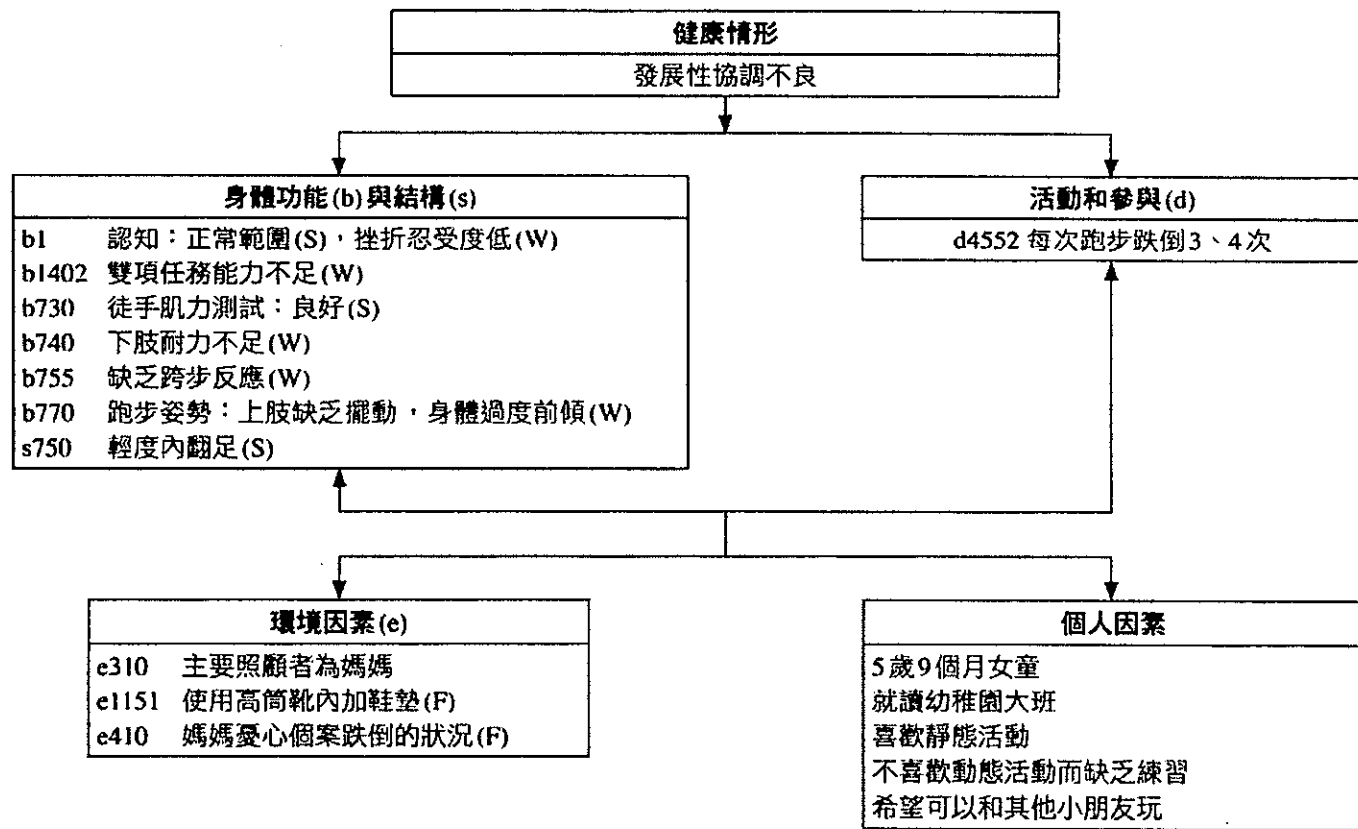


圖1. 以「ICF-CY」架構圖分析個案跑步跌倒的問題。S表示個案之優勢；W表示個案之弱勢；F表環境中之有利因素 (facilitators)；B表不利因素 (barriers)。

試題隨卷繳回