

# 臺北市立大學

## 108 學年度研究所碩士班入學考試試題

班 別：運動健康科學系碩士班

科 目：運動健康議題(運動健身指導、運動傷害防護、運動健康科學研發)

考試時間：90 分鐘【08：30—10：00】

總 分：100 分

不得使用計算機  
或任何儀具。

※不可於答案卷封(背)面上作答或註記符號及文字(包含於答案卷封面作答後塗改者)，否則不予計分。

除非試題卷另有規定，否則作答時限用藍色或黑色鋼筆或原子筆於答案卷上書寫，用其他顏色或鉛筆作答者，所考科目不予計分。

### 一、 名詞解釋(每題 8 分，共 40 分)

說明：請寫出中文名稱，並使用中文進行解釋。

1. HIIT
2. Ankle Proprioception
3. Plyometric Training
4. Heat Exhaustion
5. Lean Body Mass

### 二、 申論題(40 分)

請選擇一個 [運動或身體活動有關的健康促進相關議題]，或一個 [競技運動有關的運動表現增進相關議題]，以人工智慧(AI)、物聯網(IoT)、穿戴裝置(Wearable)或智能物聯網(AIoT)(擇一即可)提供可能的解決方案。作答內容至少應包括 議題設定說明、議題之重要性、方案規劃說明 與 預期效益 等項目。

### 三、 文獻選讀(20分)

請自下列 2 篇論文摘要選擇一篇，以中文說明本篇摘要之內容。  
為避免專業領域之差異，專業術語可直接以英文或縮寫取代，不必全部譯為中文。

<摘要一>

取自

Special series on “effects of board games on health education and promotion”  
board games as a promising tool for health promotion:a review of recent  
literature.

*BioPsychoSocial Medicine*. 2019, 13 (5), [doi.org/10.1186/s13030-019-0146-3](https://doi.org/10.1186/s13030-019-0146-3)

#### Abstract

Board games are played by moving game pieces in particular ways on special boards marked with patterns. To clarify the possible roles of board game use in psychosomatic medicine, the present review evaluated studies that investigated the effects of this activity on health education and treatment. A literature search conducted between January 2012 and August 2018 identified 83 relevant articles; 56 (67%) targeted education or training for health-related problems, six (7%) examined basic brain mechanisms, five (6%) evaluated preventative measures for dementia or contributions to healthy aging, and three (4%) assessed social communication or public health policies. The results of several randomized controlled trials indicated that the playing of traditional board games (e.g., chess, Go, and Shogi) helps to improve cognitive impairment and depression, and that the playing of newly developed board games is beneficial for behavioral modifications, such as the promotion of healthy eating, smoking cessation,

and safe sex.

Although the number of studies that have evaluated board game use in terms of mental health remains limited, many studies have provided interesting findings regarding brain function, cognitive effects, and the modification of health-related lifestyle factors.

<摘要二>

取自

Short-Term High-Dose Vitamin C and E Supplementation Attenuates Muscle Damage and Inflammatory Responses to Repeated Taekwondo Competitions: A Randomized Placebo-Controlled Trial

#### Abstract

Background: Exercise-induced muscle damage during intensive sport events is a very common issue in sport medicine. Therefore, the purpose is to investigate the effects of short-term high-dose vitamin C and E supplementation on muscle damage, hemolysis, and inflammatory responses to simulated competitive Olympic Taekwondo (TKD) matches in elite athletes. Methods: Using a randomized placebo-controlled and double-blind study design, eighteen elite male TKD athletes were weight-matched and randomly assigned into either a vitamin C and E group (Vit C+E; N = 9) or placebo group (PLA; N = 9). Vit C+E or PLA supplements were taken daily (Vit C+E: 2000 mg/d vitamin C; 1400 U/d vitamin E) for 4 days (3 days before and on competition day) before taking part in 4 consecutive TKD matches on a single day. Plasma samples were obtained before each match and 24-hours after the first match for determination of markers of muscle

damage, hemolysis, and systemic inflammatory state. Results: Myoglobin was lower in the Vit C+E group, compared to PLA, during the match day (area under curve, AUC -47.0% vs. PLA,  $p = 0.021$ ). Plasma creatine kinase was lower in the Vit C+E group (AUC -57.5% vs. PLA,  $p = 0.017$ ) and hemolysis was lower in the Vit C+E group (AUC -40.5% vs. PLA,  $p = 0.034$ ). Conclusions: We demonstrated that short-term (4-days) vitamin C and E supplementation effectively attenuated exercise-induced tissue damage and inflammatory response during and after successive TKD matches.

*Int J Med Sci. 2018; 15(11): 1217–1226.*