

國立彰化師範大學 98 學年度碩士班招生考試試題

系所：運動健康研究所

科目：健康與體育概論

☆☆請在答案紙上作答☆☆

共 3 頁，第 1 頁

一、根據以下文章之摘要，作答下列選擇題，將正確答案寫於答案卷(不須抄題目，但請列明題號)，每小題 4%，共 40%

PART I.

Research into the accuracy of self-reported measures used to quantify physical inactivity has been limited. The purposes of the current report were to examine the reliability of a survey question assessing time spent watching television and to describe associations between television watching and physical activity and health risk factors. Data from this cross-sectional investigation were obtained from a study designed to evaluate a physical activity module for potential use in the 2001 Behavioral Risk Factor Surveillance System. Participants were 93 men and women (aged 45.9 (15.4) years) who answered the question pertaining to television watching during an initial visit and three follow-up visits to the study center. Intra-class correlation coefficients (ICCs) between administrations of the survey question were used to assess test-retest reliability. Spearman rank order correlation coefficients were used to examine the associations of television viewing with physical activity and health risk factors. The test-retest reliability of the television-watching question suggested moderate agreement (ICCs of 0.42 and 0.55 over a 3-week and 1-week period, respectively). After adjustment for age and sex, reported television-watching hours were positively associated with BMI ($P = 0.0002$), percentage fat ($P = 0.0001$), and light-intensity physical activity ($P = 0.006$) and negatively associated with cardiorespiratory fitness ($P = 0.004$) and moderate-intensity and hard-intensity physical activity ($P = 0.03$ and $P = 0.003$, respectively). Increased time spent in sedentary behaviors has been identified as a major modifiable risk factor in the development of chronic diseases and conditions. The single-item survey question evaluated in this study was shown to be a reliable measure of television watching and was associated with physical activity and health risk factor outcomes.

Obesity 17(3): 487-493, (2009).

1. 本篇文章最可能之標題為何？
 - (A) Increased television viewing is associated with elevated body fatness but not with lower total energy expenditure in adults.
 - (B) Screen time and adiposity in adolescents in Mexico.
 - (C) Factors associated with television viewing time in toddlers and preschoolers in Greece: the GENESIS study.
 - (D) The reliability of a survey question on television viewing and associations with health risk factors in US adults.
 - (E) Does television viewing predict dietary intake five years later in high school students and young adults?
2. 本研究中，受試者平均年齡多少？ (A)未提及 (B) 15.4 (C) 45.9 (D) 93 (E) 36。
3. 本研究中，每位受試者應到研究中心共幾次？ (A) 0 (B) 1 (C) 2 (D) 3 (E) 4。

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4. 「看電視時數」與「BMI」是否相關？

(A)無法確認 (B)正相關 (C)負相關 (D)不相關 (E)逆相關

5. 「看電視時數」與「高強度身體活動」是否相關？

(A)無法確認 (B)正相關 (C)負相關 (D)不相關 (E)逆相關。

PART II.

This study investigated the effects of acute moderate alcohol intake on muscular performance during recovery from eccentric exercise-induced muscle damage. Eleven healthy males performed 300 maximal eccentric contractions of the quadriceps muscles of one leg on an isokinetic dynamometer. They then consumed a beverage containing 1g/kg bodyweight ethanol (as vodka and orange juice) (ALC). On another occasion they performed an equivalent bout of eccentric exercise on the contralateral leg after which they consumed an isocaloric quantity of orange juice (OJ). Measurement of maximal isokinetic (concentric and eccentric) and isometric torque produced across the knee, plasma creatine kinase (CK) concentrations and muscle soreness were made before and at 36 and 60h following each exercise bout. All measures of muscle performance were significantly reduced at 36 and 60h post-exercise compared to pre-exercise measures (all $p < 0.05$). The greatest decreases in peak strength were observed at 36h with losses of 12%, 28% and 19% occurring for OJ isometric, concentric, and eccentric contractions, respectively. However, peak strength loss was significantly greater in ALC with the same performance measures decreasing by 34%, 40% and 34%, respectively. Post-exercise plasma creatine kinase activity and ratings of muscle soreness were not different between conditions (both $p > 0.05$). These results indicate that consumption of even moderate amounts of alcohol following eccentric-based exercise magnifies the normally observed losses in dynamic and static strength. Therefore, to minimise exercise-related losses in muscle function and expedite recovery, participants in sports involving eccentric muscle work should avoid alcohol-containing beverages in the post-event period.

J Sci Med Sport. 18 (2009). [Epub ahead of print]

6. 本篇文章最可能之標題為何？

(A) Acute alcohol consumption aggravates the decline in muscle performance following strenuous eccentric exercise.

(B) Alcohol alters whole body composition, inhibits bone formation, and increases bone marrow adiposity in rats.

(C) Chronic ethanol consumption resulting in the downregulation of insulin receptor-beta subunit, insulin receptor substrate-1, and glucose transporter 4 expression in rat cardiac muscles.

(D) Exercise training with ageing protects against ethanol induced myocardial glutathione homeostasis.

(E) Muscle-strengthening activity and its association with alcohol abuse.

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7. 本研究中，若 60 公斤受試者應喝多少克 vodka，共喝幾次？
(A)未提及，1 (B)36, 2 (C)60, 1 (D)90, 3 (E)300, 6。
 8. 本研究中，對單一種肌力而言，每位受試者測試幾次？ (A)12 (B)6 (C)3 (D)2 (E)1。
 9. 從事向心運動後，使用 alcohol 是否影響肌力？
(A)無法確認 (B)增加 (C)減少 (D)不變 (E)皆可能。
 10. 最大肌力損失出現於何種狀況下？ (A)無法確認 (B)喝 orange juice 時，測等張肌力
(C)喝 orange juice 時，測向心肌力(D)喝 vodka 時，測向心肌力 (E)喝 vodka 時，測離心肌力。
- 二、目前減肥方法包含飲食控制、藥物、運動等治療方式。胃內水球(BioEnterisics Intragastric Balloon,簡稱 BIB)是近年新發展出來的一種免開刀減重手術，醫師將水球藉由胃鏡置入胃內，並於水球中注入生理食鹽水。藉由這種填充胃部，產生飽食感，降低食物攝取量的方式來達到減重的效果。術後病患有噁心嘔吐不適感，不適宜跑步等劇烈運動，以免水球破裂，6個月水球安全期內可有效降低10%體重。請以專業健身指導員 (Health/Fitness Instructor) 角度，同時為此類病患設計6個月降低體重之運動處方，並預估成效。(20%)
- 三、Health-related physical fitness 及 Skill-related physical fitness 之組成要素各為何？並說明各組成要素之測量方式及重要性。(20%)
- 四、棒球運動為我國全民瘋狂之運動，身為「棒球先生」的你(妳)，一生從事棒球運動相關工作，自職棒教練退休後，任職於縣政府體健科，試撰寫一篇「推廣中小學棒球運動」之企劃書，包含重點工作與實施策略，闡述你的工作抱負，以向教育部申請經費補助。(20%)