

出國報告（出國類別：出席國際會議）

參加 2013 年美國運動醫學會年會

（暨參訪姊妹校印第安納大學 Bloomington 校區行程）

服務機關：國立體育大學運動保健學系

姓名職稱：陳麗華助理教授

派赴國家：美國

出國期間：民國 102 年 5 月 23 日起 6 月 3 止

報告日期：民國 102 年 7 月 2 日

摘要

2013 年美國運動醫學會第 60 屆年會暨第 4 屆「運動是良藥(Exercise is Medicine)」世界大會於 5 月 28 日起至 6 月 1 日止在印第安那州印地安納波里斯舉行，共有來自超過世界 50 個以上的國家，數千篇的論文摘要，超過 400 個場次的論文發表。本次會議筆者全程參與，與同仁發表了 2 篇的論文，會議當中，增廣學術專業的見聞，也促成了國際學術的交流。本次參加國際會議，特別感受美國運動醫學會過去幾年所推動的「運動是良藥」倡議已逐漸受到醫學界的重視，甚至透過國際學者的協助與交流，許多開發中的國家目前也緊起直追的跟上這項國際潮流。國內體育界與醫學界的整合性的活動較闕如，有待跨領域學門整合及政府的決策行動，而若能利用國際交流，吸取他國推動運動健康促進的經驗，應可使我國運動健康促進與疾病預防的工作更有事半功倍之效。

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壹、目的

- 一、參加 2013 年美國運動醫學會第 60 屆年會暨第 4 屆「運動是良藥」世界大會 (4th World Congress on Exercise is Medicine, EIM)，以吸收國際有關運動醫學相關新知。
- 二、進行論文發表，促進國際學術交流，提升國際視野。
- 三、參訪姊妹校印第安納大學 Bloomington 校區。

貳、過程

一、會議背景概述

美國運動醫學會 (American College of Sports Medicine, ACSM) 成立於 1954 年，其成立宗旨為促進全民健康，專業使命則為「促進與整合運動醫學與運動科學研究、教育與實務工作，並維持及增進人類的身體表現、體適能、健康與生活品質」，截至 2013 年，ACSM 已進入第 60 個年頭，慶祝第 60 年的年會選擇回到 ACSM 總部的印第安納州舉行，大會特別強調：走了 60 年，ACSM 共涵蓋有



70 個不同領域學門，並且遍及全球 90 個國家 (如上圖)；而「運動是良藥世界大會」則是於 2007 年成立，幾年來有全世界許多國家共同參與。據統計，2013 年第 60 屆 ACSM 年會及第 4 屆「運動是良藥 (Exercise is Medicine[®], EIM)」世界大會共有來自世界 50 個以上的國家，數千篇的論文摘要投稿，超過 400 個場次的論文發表。本屆年會手冊中開宗明義說明大會的主要教育目標如下：

1. 評估在正常或疾病狀態下，伴隨著運動所產生的生物性、生物力學、

心理及行爲的改變。

2. 分析在運動，體適能，健康，身體表現之最先進且創新的基礎科學、應用科學及臨床醫學知識。
3. 透過與相關領域科學家、臨床醫學家進行互動交談，比較健身運動科學與運動醫學之創新方法。
4. 瞭解因身體活動不足所產生疾病與相關狀態之基礎科學研究的重要性。
5. 評估身體活動研究與實務對公共衛生的貢獻。

二、會議活動簡介

今年的會議除了延續過去傳統整合了有關運動醫學、生理、心理等內容外，大會管理運作包括：大會報到、講員服務、同儕交流、興趣小組、海報展示、會員服務／事求人、學生服務台、ACSM 紀念品販售、錄音／錄影服務、演講 DVD 等等，會議進行的方式則與過去類似，包括：臨床個案報告、座談會、演講、對話式討論會、當前議題、主題演講、自由討論、海報發表、主題海報發表、小型會談、大會會長主題演講、特殊演講、歷史回顧演講及指導式的演講活動等。其中最值得提起的活動包括：

1. 晚會：歡迎晚會、榮譽頭銜頒獎會、學生團體、分區團體及國際與會人士招待晚會等，有適合不同團體的學術、專業及社交性活動聚會，目的除了在專業上的分享外，也鼓勵建立相同專業人士與學生團體的國際交誼。(圖一)



圖一 歡迎晚會中與知名運動生理學者 Dr. Katch 及國內謝伸裕教授合影

2. 各校校友會活動：這項活動並非大會所安排規劃，而是於大會期間美國各校相關學院都趁機會辦理校友連結的活動。筆者藉此次機會亦與歷屆校友、師長及院長見面，增加與校友及與母校師長間的情誼，特別是母校印第安納大學體育學院 (School of Health, Physical Education, and Recreation) 因學校行政管理運作的緣故，已經改名為公共衛生學院 (School of Public Health)，許久未見面的校友相聚，更因彼此連結而有歸屬感。
3. 廠商展覽：各種運動器材、實驗室設備器材及設施軟硬體、運動營養產品、飲料、能量補充包及書籍等各大知名廠商的展示。(圖二)



圖二 廠商展覽會場實況一景

4. 海報發表：包括一般的海報發表及主題問答性的海報發表，此段落發表也是一般與會者參與最多參與發表的形式。(圖三)



圖三 海報會場發表者與學員互動情形

5. 興趣小組集會：跟過去相同，興趣小組的分組乃採自由參加的方式分兩天不同時段進行。興趣小組根據每個小組的特性及所設計的議題，由來自世界各國不同的學者專家針對該議題提出相關意見。興趣小組的另一項重點工作為建立人際網絡(networking)，利用這個機會將有興趣該主題之相關人士進行串聯，俾利該項主題研究工作的分享與討論。今年興趣小組共分為下列 19 項主題，包括：老化、生物力學、生物統計、環境與職業生理學、對抗性運動(Combative Sports)、兒童運動生理學、營養、非侵入性的神經肌肉系統、少數人種健康與研究、團體運動醫學及科學、對抗禁藥、骨骼及骨質疏鬆、癌症、耐力運動醫學與科學、運動科學教育、分子細胞調節機轉、心理生物學及行為、冬季運動科學及特殊肌力與體能訓練。筆者參加「老化興趣小組 (Ageing Interest Group, AIG)」並參與相關議題的討論。
6. 其他活動：大會另辦理「歡迎晚會」、「學生與專家見面」、「ACSM 分區會議」、晨間健走與晨間路跑活動等等，都是每一年的重頭戲，其中路跑路線的設計是經過精心策劃，而本次還特別設計了「啓動美國城市更健康的動起來 (Actively Moving US Cities to Be Healthy)」，有在宣示及落實參與會議學員積極的動態生活參與，筆者也藉此機會認識當地的風土民情。(圖四)



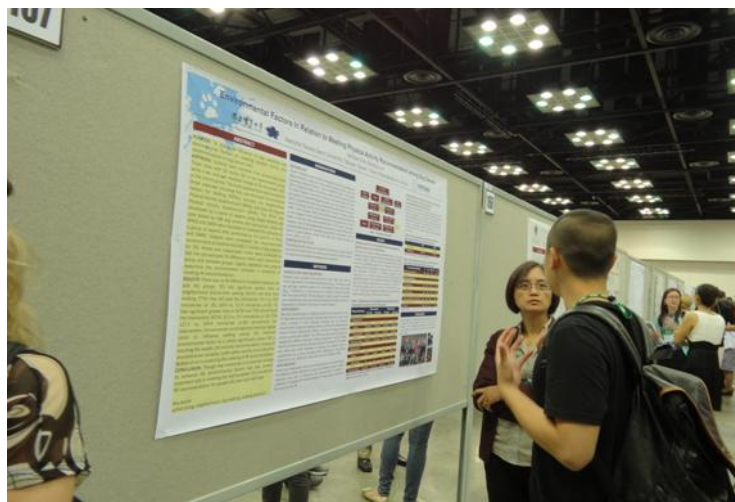
圖四 大會結合「運動是良藥」主題與社區文化健走/腳踏車活動

三、論文發表經過

本次筆者除了參與參加第60屆美國運動醫學會會議的各項活動之外，同時也與校內同事進行了下列2項海報發表：

1. Environmental Factors In Relation to Meeting Physical Activity Recommendation among Dog Owners. (第一作者)
2. Self-rated Exercise Intensity and Perceived Benefits and Barriers Among Group-based Exercise Participants. (第二作者)

上述的2項發表，其中筆者為第一作者的論文中，在台灣越來越普遍的寵物犬飼養現象，探討新手寵物犬飼主認養寵物全前後的身體活動量改變情形；第二篇論文則為筆者與同事共同執行的一項委託計畫的結果，探討目前一般團體運動參與者自覺的運動強度情形，並且分析自覺利益及自覺阻礙的情形。由於身體活動對健康的影響甚鉅，動態生活的養成應推廣及不同年齡族群及場域，或者台灣社區民眾較常參與的「晨練」團體運動的情形確實如何，國內相關的研究較少，這次利用參加本屆年會的機會，將國內的研究與國外學者專家進行這相關主題的分享，也引起國際專家學者的興趣，並熱烈的參與討論。(圖五)



圖五 筆者海報發表與與會學員說明及討論情形

四、參訪姊妹校印第安納大學 Bloomington 校區概述

由於地緣的關係，本次特別前往本校姊妹校印第安納大學 Bloomington 校區參訪，由於時間安排並不順暢，抵達時間適逢美國國軍紀念日 (Memorial Day)，

校園行政單位皆處休假狀態，不過睽違多年，能重新返回自己母校，心情很是愉快。從過去的體育學院 (School of HPER) 到現在的公共衛生學院 (School of Public Health)，除了原有的體育系 (Kinesiology)、應用健康系 (Applied Health Science) 及休閒系 (Recreation, Parks, and Tourism Studies) 外，另外增加了兩個科系，分別為：環境衛生 (Environmental Health) 及流行病學與生物統計 (Epidemiology and Biostatistics)。學院名稱的改變，除了突顯了運動與健康結合的必然重要性外，更可以較容易取得相關國家政府資源與經費，為爭取知名度與資源的策略性作法。(圖六)



圖六 筆者參訪姐妹校印第安納大學 Bloomington 校區公共衛生學院

參、心得與建議


「健康」為現在一般民眾關注、政府資源投入及相關研究議題聚焦的顯學，這個趨勢可從越來越多的民間或學術單位，包括筆者母校印第安納大學，進行校名變更，甚至更多相關資源整合融入與健康領域有關的趨勢一致。2013 年的 ACSM 第 60 屆年會有超過 400 場次活動的進行及數千篇論文的發表，真可謂一場豐盛的學術專業饗宴，會議當中，增廣學術專業的見聞，也促成了國際學術的交流。筆者所參與的興趣主題中，可以發現「坐式生活型態」及「老人」相關主題方面的探討仍是目前「運動健康促進」的主流之一，「女性」與「兒童」等族群相關的主題也似乎有增多，其中特別是「活躍兒童」的推動，更有大型運動產業的全球性行動加入，

而「環境變遷」對於目前推動上列族群的特殊需求上，似乎有蓄勢待發的趨勢。

從 2007 年開始美國運動醫學會開始推動與醫界合作，強調「運動是良藥 (Exercise is Medicine)」的倡議，並廣為推行與實踐，在幾年堅定且誠懇地努力經營後，如今開始有些許的成果。全球各國醫界在疾病處置上都會偏向嚴謹、保守的態度，然而近年來各項研究的結果多指出運動對健康促進、疾病預防及功能部分恢復的效果，美國運動醫學會一向以在該領域的領導者自居，透過協助「跨界整合」、「異業聯盟」的作法，有越來越多的醫師呼應了「運動是良藥」的行動，並且有多國的準醫師 (醫學生) 參與了 ACSM 的「運動是良藥」培訓班。不管國內醫界是否認同或準備好了這項國際性的倡議，國內體育界與醫學界的整合性的行動較闕如，實有待跨領域學門整合及政府的決策行動。

另外，今年特別在一場由美國疾病管制中心 (Centers for Disease Control and Prevention) 主持，以金磚五國 (BRICS：巴西、俄羅斯、印度、中國、南非) 為主角的論文「全球行動：金磚五國的身體活動推動」報告中，將過去透過國際學者合作的模式與成效加以呈現，在不同的單位在專業人士協助建議下，進行國民生活型態的修正與建議，且頗具成效。這些國民人口眾多、深具經濟潛力的國家，雖部分多數「待開發」國家的狀態，然文明病的盛行率仍值得擔憂，因此身體活動的推動亦應是減少疾病、降低醫療開銷很重要的公共衛生手段。建議我國體育運動界在針對國人提供動態生活建議的典範上，亦可多利用國際上他國推動運動健康促進的經驗，期使我國運動健康促進與疾病預防的工作更有事半功倍之效




附錄一、2013 年 ACSM 年會大會手冊發表文章標示 (2 篇)




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- 1561 Board #153 3:30 PM - 5:00 PM**
Blood Flow in the Frontal Cerebral Cortex During Cascade Juggling
Shuji Shimonagata, Keisuke Koizumi, Katsuo Sugita. *Chiba University, Chiba, Japan.*
(No relationships reported)
-
- D-32 Free Communication/Poster - Physical Activity Interventions in Older Adults**
THURSDAY, MAY 30, 2013, 1:00 PM - 6:00 PM
Room: Hall C
-
- 1562 Board #154 2:00 PM - 3:30 PM**
Effect of Continuous Versus Discontinuous Aerobic Exercise on Hemodynamics in Young and Older Adults
Marco Meucci¹, Michael J. Landram¹, Alan C. Utter, FACSM², Steven R. McAnulty², Carlo Baldari, FACSM³, Laura Guidetti, FACSM³, Scott R. Collier, FACSM². ¹University of Rome "Foro Italico", Rome, Italy. ²Appalachian State University, Boone, NC. ³University of Rome, Rome, Italy.
(No relationships reported)
- 1563 Board #155 2:00 PM - 3:30 PM**
Effect Of Tai Chi Plus Dietary Weight Loss On Blood Pressure In Obese Older Women
Matthew J. Delmonico, Jillian Bekke, Jonathan Letendre, Nowen Beebe, Dinah Quintanilla, Ingrid E. Lofgren, Furong Xu. *University of Rhode Island, Kingston, RI.*
(No relationships reported)
- 1564 Board #156 2:00 PM - 3:30 PM**
Effects Of High- And Low-velocity Resistance Training On Regional Body Composition Measures In Older Adults
Kristin Bogda¹, Pam Farris¹, Emily Fasnacht¹, Hannah Kosteleky¹, Terry Taylor¹, Melissa Powers¹, Michelle Gray². ¹University of Central Oklahoma, Edmond, OK. ²University of Arkansas, Fayetteville, AR.
(No relationships reported)
- 1565 Board #157 2:00 PM - 3:30 PM**
Flexibility Program May Increase Shoulder Flexion in Older Adults
Kelsey Hubble, Shikshya Shrestha, Megan Smith, Antonio Ross, Melissa Powers. *University of Central Oklahoma, Edmond, OK.*
(No relationships reported)
- 1566 Board #158 2:00 PM - 3:30 PM**
Pulmonary Function Changes In The Aged Following Pilates Exercise Training
Brandon S. Shaw¹, Gertrude M. Gildenhuis², Marinda Fourie², Ina Shaw³, Gregory A. Brown, FACSM⁴. ¹Tshwane University of Technology, Johannesburg, South Africa. ²Tshwane University of Technology, Pretoria, South Africa. ³Monash South Africa and Tshwane University of Technology, Johannesburg, South Africa. ⁴University of Nebraska at Kearney, Kearney, NE.
(No relationships reported)
- 1567 Board #159 2:00 PM - 3:30 PM**
Short-term Step Aerobic Exercise Training And Detraining Effects On Functional Fitness In Postmenopausal Women
Huei-Jhen Wen¹, Tzai-Li Li², Pao-Sheng Yen³. ¹Tzu Chi University, Hualien City, Taiwan. ²National Taiwan Sport University, Taoyuan County, Taiwan. ³Tzu Chi General Hospital, Taichung, Taiwan. (Sponsor: Chodzko-Zajko, Wojciech, FACSM)
(No relationships reported)
- 1568 Board #160 2:00 PM - 3:30 PM**
Effect of Transcutaneous Electrical Nerve Stimulation on Cardiopulmonary Responses During Endurance Exercise in Healthy Subjects
Fernanda P. Tomasi¹, Gaspar R. Chiappa², Vinicius M. da Silva¹, Marianne L. da Silva¹, Alexandra Lima¹, Ross Arena², Gerson Cipriano Jr.¹. ¹University of Brasilia, Brasilia, Brazil. ²Clinical Hospital of Porto Alegre, Porto Alegre, Brazil. ³University of New Mexico, Albuquerque, NM.
(No relationships reported)
- 1569 Board #161 2:00 PM - 3:30 PM**
The Effect Of Variety On Time Spent In Moderate- To Vigorous-intensity Physical Activity
Hollie A. Raynor¹, Dale S. Bond². ¹University of Tennessee, Knoxville, TN. ²Brown Medical School, Providence, RI.
(No relationships reported)
- 1570 Board #162 2:00 PM - 3:30 PM**
Comparing The Health Outcomes Among Fitness Center Members From High and Low Education and Income Groups
Rebecca Abaddi¹, Olivia Smith², Kisha Virgil¹, NiCole Keith, FACSM³. ¹Hamilton Southeastern High School, Indianapolis, IN. ²Pike High School, Indianapolis, IN. ³Indiana University-Purdue University, Indianapolis, Indianapolis, IN.
(No relationships reported)
- 1571 Board #163 2:00 PM - 3:30 PM**
Marketing Exercise: In Physical Activity Campaigns, Does The Reason For Being Active Predict Affective Response?
Michelle Segar¹, Peter Ubel², Brian Zikmund-Fisher¹, John Updegraff³, Caroline Richardson¹. ¹The University of Michigan, Ann Arbor, MI. ²Duke University, Durham, NC. ³Kent State University, Kent, OH. (Sponsor: Jeff Horowitz, FACSM)
Reported relationships: M. Segar: Honoraria; michellesegar.com. Ownership Interest; michellesegar.com.
- 1572 Board #164 2:00 PM - 3:30 PM**
Efficacy Of Weight-loss Competition In Charlotte Mecklenburg Police Department
Elizabeth A. Dyer¹, Robert W. Boyce, FACSM¹, Glenn R. Jones², Edward L. Boone³. ¹UNC-Wilmington, Wilmington, NC. ²Work Physiology Associates, Charlotte, NC. ³Virginia Commonwealth University, Richmond, VA.
(No relationships reported)
- 1573 Board #165 2:00 PM - 3:30 PM**
Muscle Utilization Patterns during Specific Yoga Poses
Meng Ni¹, Kiersten Mooney², Kysha Harriell¹, Nicole Morales¹, Joseph F. Signorile¹. ¹University of Miami, Coral Gables, FL. ²Bala Vinyasa Yoga, Coral Gables, FL. (Sponsor: Arlette Perry, FACSM)
(No relationships reported)
- 1574 Board #166 2:00 PM - 3:30 PM**
Effect Of A Very Low-calorie Diet On Weight Loss And Selected Measures Of Physical Health
Andy Matthews¹, Jordan Glenn¹, Casey Sams², Robert Feezell², Matt Ganio¹. ¹University of Arkansas, Fayetteville, AR. ²New Directions Weight Loss, Bentonville, AR. (Sponsor: Stavros Anastassios Kavouras, FACSM)
(No relationships reported)
- 1575 Board #167 2:00 PM - 3:30 PM**
Environmental Factors In Relation to Meeting Physical Activity Recommendation among Dog Owners
Lee-hwa Chen, Shang-ju Lee. *National Taiwan Sport University, Taoyuan, Taiwan.*
(No relationships reported)
- 1576 Board #168 2:00 PM - 3:30 PM**
Influences of Medical Residents' Attitudes and Health Behaviors on their Communication Skills and Counseling Practices
Allison H. Bowersock. *Jefferson College of Health Sciences, Roanoke, VA.*
(No relationships reported)

- 1608 Board #200 3:30 PM - 5:00 PM**
Characteristics of Teenagers in Whom Risk Factors Worsened Following Successful Health Intervention: The PATH Program
Paul S. Fardy, FACSM, Henry Wang, Ann Azzollini. *Queens College, City University of New York, Flushing, NY.*
(No relationships reported)
- 1609 Board #201 3:30 PM - 5:00 PM**
Effects Of An Adapted Physical Training On Functional And Psycho-physical Status In Patients With Spinal Cord Injury
Lucia Cugusi, Roberto Serpe, Katia Pilia, Valentina Pintus, Carla M. Calò, Myosotis Massidda, Giuseppe Mercuro. *University of Cagliari, Cagliari, Italy.*
(No relationships reported)
- 1610 Board #202 3:30 PM - 5:00 PM**
Effects of a Water Exercise Circuit on Functional Activities of Daily Living: A Pilot Study
Taylor S. Boehler, Robyn L. Anderson. *Alma College, Alma, MI.*
(No relationships reported)
- 1611 Board #203 3:30 PM - 5:00 PM**
Influence of Knowledge of Functional Assessment Results on Older Adults' Self-efficacy for Exercise and Physical Activity Behaviors
Anne Reilly¹, Carol Sames², Dale Avers², Peter McGinnis³, Paula Rosenbaum², Wendy Hurley³. ¹SUNY Cortland and Upstate Medical University, Syracuse, NY. ²SUNY Upstate Medical University, Syracuse, NY. ³SUNY Cortland, Cortland, NY.
(No relationships reported)
- 1612 Board #204 3:30 PM - 5:00 PM**
Regulating Upper Extremity Explosive Resistance Training for Older Adults using the RPE
Brandi S. Row¹, Mitchell Dropp², William Lloyd². ¹Willamette University, Salem, OR. ²Western Washington University, Bellingham, WA. (Sponsor: Clare E. Milner, FACSM)
(No relationships reported)
- 1613 Board #205 3:30 PM - 5:00 PM**
Lower Body Flexibility Among Older Adults
Ta-Niqua Ward, Simon Smith, Isaac Henry, Cody Sodowsky, Melissa Powers. *University of Central Oklahoma, Edmond, OK.*
(No relationships reported)
- 1614 Board #206 3:30 PM - 5:00 PM**
The Effectiveness Of Wii Fit Plus Strength Training In Community Dwelling Older Adults
Chandrasekhar Bulusu. *University of Texas at El Paso, El Paso, TX.*
(No relationships reported)
- 1615 Board #207 3:30 PM - 5:00 PM**
High Intensity Walk Exercise May Attenuate Muscle Hypertrophy By Combined Circuit Training In Older Women
Hayao Ozaki, Hisashi Naito, Tomoharu Kitada, Shizuo Katamoto. *Juntendo University, Inzai, Japan.*
(No relationships reported)
- 1616 Board #208 3:30 PM - 5:00 PM**
Understanding Technology Adoption Among Older Adults
Kyungo Kim, Emerson Sebastiao, Andiara Schwingel, Wojtek Chodzko-Zajko, FACSM. *University of Illinois at Urbana-Champaign, Urbana, IL.*
(No relationships reported)
- 1617 Board #209 3:30 PM - 5:00 PM**
Individual Perception on the Concept of Health: A Comparison Study between Age Groups
Zhijian Huang, Yufang Zhang, Jing Ran. *Wuhan Institute of Physical Education, Wuhan, China.* (Sponsor: Yong "Tai" Wang, FACSM)
(No relationships reported)
- 1618 Board #210 3:30 PM - 5:00 PM**
Sensitivity Of Pain Rating Scales On Walking Steps In Middle-aged Females
Miyoun Lee, Jinwon Kim. *Koomin University, SEOUL, Republic of Korea.* (Sponsor: Weimo Zhu, FACSM)
(No relationships reported)
- 1619 Board #211 3:30 PM - 5:00 PM**
Self-rated Exercise Intensity And Perceived Benefits And Barriers Among Group-based Exercise Participants
Chin-chueh Tsai, Lee-hwa Chen, Jou-min Tung, Pei-sung Chin, Ya-hsin Tung. *National Taiwan Sport University, Taoyuan, Taiwan.*
(No relationships reported)
- 1620 Board #212 3:30 PM - 5:00 PM**
Defining And Predicting Adherence To An Online Lifestyle Program: 12-month Results From The Ocelot Study
Margaret B. Conroy¹, Tina Bhargava², Dana Tudorascu¹, Irina Karpov¹, Karina Knight-Sepulveda¹, Rachel Hess¹, Gary S. Fischer¹, Laury Simkin-Silverman¹, Kathleen M. McTigue¹. ¹University of Pittsburgh, Pittsburgh, PA. ²Kent State University, Kent, OH.
(No relationships reported)
- 1621 Board #213 3:30 PM - 5:00 PM**
Physical Activity and Curricular Performance of Nursing Students in Taiwan
Ching-I Chang¹, Huey-Yeu Yan², Wen-Hsu Sung³. ¹National Taiwan University Hospital, Taipei, Taiwan. ²Kang-Ning Junior College of Medical Care and Management, Taipei, Taiwan. ³National Yang-Ming University, Taipei, Taiwan.
(No relationships reported)
- 1622 Board #214 3:30 PM - 5:00 PM**
Translating Health Promotion Research Into Community Practice: The Manup Project
Cristina M. Caperchione¹, Mitch J. Duncan², Gregory S. Kolt³, Corneel Vandelandotte², Anthony Maeder³, Richard R. Rosenkranz², Manny Noakes⁵, Karunanithi Mohanraj⁶, W. Kerry Mummery⁷. ¹University of British Columbia, Kelowna, BC, Canada. ²Central Queensland University, Rockhampton, Australia. ³University of Western Sydney, Sydney, Australia. ⁴Kansas State University, Manhattan, KS. ⁵CSIRO Food and Nutritional Sciences, Adelaide, Australia. ⁶CSIRO The Australian eHealth Research, Brisbane, Australia. ⁷University of Alberta, Edmonton, AB, Canada. (Sponsor: Karen Croteau, FACSM)
(No relationships reported)
- 1623 Board #215 3:30 PM - 5:00 PM**
Exercise Induced Analgesia- Interval Vs. Continues Mode
Einat Kodesh, Irit Weissman-Fogel. *University of Haifa, Haifa, Israel.*
(No relationships reported)
- 1624 Board #216 3:30 PM - 5:00 PM**
Enhanced Athletic Performance and Decreased Exertional Pain Utilizing Electromagnetic Holographic Chip Technology: A Preliminary Investigation
Lisa Cooper Colvin, FACSM¹, Luke Thomas¹, Christopher Myers¹, Jacobus Smit², Denise Myers¹. ¹University of Louisiana at Monroe, Monroe, LA. ²Athletic Republic of Northeast Louisiana, Monroe, LA.
(No relationships reported)
- 1625 Board #217 3:30 PM - 5:00 PM**
Impact Of A Faith-Based Community Center (CC) On Physical Activity (PA) Behaviors Of Adults
Angela DeMano Doehring¹, Roseann M. Lyle, FACSM², Nancy Edwards². ¹Millikin University, Decatur, IL. ²Purdue University, West Lafayette, IN.
(No relationships reported)

Environmental Factors In Relation to Meeting Physical Activity Recommendation among Dog Owners

Lee-hwa Chen, Shang-ju Lee



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ABSTRACT

PURPOSE: To study the influence of dog ownership and environmental factors on meeting physical activity (PA) recommendation of dog owners (DO).

METHODS: Subjects were recruited from around the Great Taipei Area with 32 novice DO in the experimental group, while a sex- and age- matched sample of 32 non-owners (NO) in the control group. The study questionnaire was consisted of three subscales including first, the Perceived Environmental Factors for Walking (PEFW); secondly, the Neighborhood Physical Activity Questionnaire (NPAQ), and lastly the Dog and Physical Activity Questionnaire (DAPA). The PEFW was developed by a panel of experts using Delphi Method and pilot tested by 188 dog owners and non-owners, while the NPAQ and DAPA were translated to evaluate the relevance by a group of experts after authorized by the authors of NPAQ and DAPA. Subjects were completed the aforementioned questionnaire at baseline and after 2 months of dog adoption for DO. Paired and independent t-tests were conducted to test the pre-and-post PA difference within each intervention group and between groups. Logistic regression was used to determine the environmental correlates in prediction of meeting PA recommendation.

RESULTS: There was no PA difference at baseline between DO and NO groups. DO had significant greater time in neighborhood leisure-time walking (NLTW) and total time walking (TTW) than NO post the intervention (75.7 vs. 29.0 minute/wk, $p < .05$; 169.4 vs. 111.5 minute/wk, $p < .05$). DO had significant greater time in NLTW and TTW pre-and-post the intervention (NLTW: 32.3 vs. 75.7 minute/wk, $p < .05$; TTW: 127.1 vs. 169.4 minute/wk, $p < .05$) pre-and-post the intervention. Environmental comfortableness held the highest score to influence walking among DO. Perceived environmental factor as a whole significantly impact DO in reaching the weekly 150 minutes recommendation. Among all environmental variables, traffic safety was the most influential factors of all in predicting the meeting of PA recommendation. **CONCLUSION:** Though dog ownership is a potential strategy to enhance PA, environmental factors may play another important role in meeting the well-accepted 150 minutes/wk PA recommendation for people who own and walk dogs.

Key words :
active living, neighborhood, dog walking, walking behavior

INTRODUCTION

BACKGROUND

Physical inactivity ranks the fourth among the risk factors contributing to global mortality in high and middle income countries (WHO, 2013). Not surprisingly, physical inactivity is also prevalent in Taiwan. Only around 14% of Taiwanese adults met national physical activity recommendation for health, frequency of at least 3 times per week and at least 30 minutes per session of moderate physical activity. (Ku, Fox, McKenna, & Peng, 2006). A handful of studies have compared dog owners' and non-owners' levels of physical activity (Cutt, Giles-Corti, Knuiman, Timperio, & Bull, 2008; Ham & Epping, 2006). Most of these studies have found that dog owners engage in more physical activity than non-owners and are more likely to exercise at the recommended level of 150 minutes per week. However, most of the studies were cross-sectional, and the influences of environmental factors for Taiwanese dog owners as compared to those found in some western studies (Cutt, Giles-Corti, Wood, Knuiman, & Burke, 2008) is not clear.

PURPOSE OF THE STUDY

The purpose of the study was to examine the influence of dog ownership and environmental factors on meeting physical activity recommendation of dog owners for an ethnic Taiwanese adult population.

METHODS

SUBJECTS AND DATA COLLECTION

Subjects were recruited from around the Great Taipei Area with 32 novice dog owners in the experimental group ($M_{age} = 33.44 \pm 6.54$), while sex- and age- matched sample of 32 non-owners in the control group ($M_{age} = 33.84 \pm 6.53$). In both groups, the number of male and female were also equal ($N=16$). The two groups of subjects were all consented and completed the study questionnaire at baseline and after 2 months of dog adoption. Flowchart of the study is shown in Figure 1.

INSTRUMENTS

The study Questionnaire of Physical Activity and Environmental Factor for Dog Owners and Non-owners was developed from the current study which consisted of three subscales including first, the Perceived Environmental Factors for Walking (PEFW); secondly, the Neighborhood Physical Activity Questionnaire (NPAQ), and lastly the Dog and Physical Activity Questionnaire (DAPA). The PEFW was developed by a group of experts from different expertise in Taiwan using three rounds of Delphi Method and pilot tested by 188 dog owner and non-owners. The NPAQ and DAPA were both translated to evaluate the relevance from a questionnaire by a panel of experts after authorized by the authors (Giles-Corti, et al., 2008; Cutt, Giles-Corti, Knuiman, & Pikora, 2008).

DATA ANALYSIS

Paired and independent t-tests were conducted to test the pre-and-post PA difference within intervention group and between groups. Logistic regression was used to determine the environmental correlates in prediction of meeting PA recommendation of dog owners. Significant level was set at $\alpha = .05$.

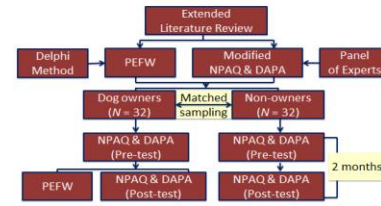


Figure 1. Flowchart of the study

RESULTS

PHYSICAL ACTIVITY FOR DOG AND NON-DOG OWNERS AT BASELINE AND POST-INTERVENTION

There were no significant differences between groups in time spent walking, biking and moderate-to-vigorous physical activity at baseline. As shown in Table 1., after two months of dog adoption, the novice dog owners had significantly greater time in neighborhood leisure-time walking and total time walking as compared to the non-owners post the intervention (75.7±56.4 vs. 29.0±24.3 minute/wk, $p < .05$; 169.4±124.5 vs. 111.5±64.0 minute/wk, $p < .05$). Dog owners had significantly greater time in neighborhood leisure-time walking and total time walking pre-and-post the intervention (32.3±59.5 vs. 75.7±56.4 minute/wk, $p < .05$; 127.1±117.0 vs. 169.4±124.5 minute/wk, $p < .05$). There were not significant differences for biking behaviors, neither between groups nor pre-and-post intervention.

Table 1. Neighborhood and non-neighborhood walking and biking for transportation and leisure, $M \pm SD$ (minutes/wk)

Physical Activity	Non-owners		Dog Owners	
	Pre-test	Post-test	Pre-test	Post-test
Walking (minutes/wk)				
Neighborhood				
Transportation	50.9±39.8	56.2±33.8	68.3±55.1	67.5±50.5
Leisure	20.3±27.6	29.0±24.3	32.3±59.5	75.7±56.4*
Non-neighborhood				
Transportation	6.8±5.2	7.5±20.1	16.9±50.4	16.6±48.9
Leisure	10.6±36.8	18.7±43.0	9.5±46.3	9.5±46.3
Total time walking	90.5±65.1	111.5±64.0	127.1±117.0	169.4±124.5**
Biking (minutes/wk)				
Neighborhood				
Transportation	5±20.3	4.2±12.6	3.1±8.5	3.2±8.3
Leisure	1.5±6.2	3.6±9.1	9.0±29.7	7.0±22.1
Non-neighborhood				
Transportation	0	0	0	0
Leisure	10.6±30.8	9.3±26.8	10.0±32.1	10.3±31.4
Total time biking	18.1±35.6	17.1±29.2	22.1±61.7	20.6±50.0

Note: *Post-test significantly different from non-dog owners, † Significantly different from pre-test. ($p < .05$).

ENVIRONMENTAL FACTORS IN RELATION TO MEETING THE WEEKLY 150 MINUTES PHYSICAL ACTIVITY RECOMMENDATION FOR DOG OWNERS

Though not significantly different between groups and before-and-after intervention, the number and percentage of subjects meeting physical activity recommendation in both groups had increased (Table 2.). In Table 3, perceived environmental factor as a whole significantly impact dog owners in reaching the weekly 150 minutes recommendation. Among all environmental variables, traffic safety was the most influential factors of all in predicting meeting PA recommendation for dog owners.

Table 2. N (%) for dog owners and non-owners meeting physical activity recommendation before and after intervention

	PRE	POST
Dog owners	10 (31.3%)	13 (40.6%)
Non-owners	5 (15.6%)	8 (25.0%)

Note: PRE=pre-intervention; POST=post-intervention.

Table 3. Environmental factors in relation to meeting the weekly 150 minutes physical activity recommendation for dog owners.

Environmental Variables	B	S.E.	Wals	df	Sig.
Total environmental factors	-.042	0.02	4.51	1	0.03*
Constant	4.76	2.45	3.75	1	0.05
Environmental Variables					
Traffic safety	1.66	0.83	3.99	1	0.04*
Comfortableness	-1.55	0.81	3.65	1	0.05
Aesthetics	-.012	0.17	0.52	1	0.46
Trail Functionality	0.57	0.33	3.01	1	0.08
Availability of venues and facilities	-1.25	0.74	2.87	1	0.09
Venues accessibility and convenience	0.56	0.67	0.66	1	0.41
Environmental quality	-1.30	0.83	2.43	1	0.11
Constant	37.00	22.43	2.72	1	0.09

Note: * $p < .05$.

CONCLUSION

Dog ownership is a potential opportunity to enhance physical activity. Environmental factors, especially traffic safety, may play another important role in meeting the well-accepted 150 minutes/week physical activity recommendation for people who own and walk their dogs in Taiwan.

