

Study on the correlation between vegetarian lunch program and 4th grader's learning attitude and beh

陳仕恩、李康文、余世宗

E-mail: 344756@mail.dyu.edu.tw

ABSTRACT

Appropriate to change the current human protein meat-focused diet, to enhance the intake of fruits and vegetables vegetarian, and animal-related industry sectors to reduce greenhouse gas emissions, is the large-scale carbon reduction measures in all kinds of lowest cost and most feasible option. Under the auspices of Vegetarian Education, the Ministry of Education actively promotes meat-free day program on Monday. Changhua County is fully promoting meat-free day on Monday at elementary and middle schools around Taiwan. The main purpose of this study is to explore to the impact of vegetarian carbon reduction plan on fourth-grade students' learning attitudes and behaviors. The results of data analyses showed that the subjects in this study have shown positive results between learning attitudes and behaviors. The results also showed significant differences among the urban and rural areas, genders, and social-economic status. Also, there was a positive correlation between students' learning attitude and learning behavior in this study. Compared to rural students, urban students had a better performance in terms of learning attitude. It means that there is a gap between the urban and rural resources and social-economic developments. Compared to male students, female students had a better performance in terms of their environmental action. The results of this study were consistent with most results of related issues around the world. On the other hand, there were significant differences between various levels of social-economic status. The better the economic situation of children, the better practical ability was. After the implementation of meat-free day on Monday programs, students did a good job on the overall academic performance, especially on the performance of natural science learning, partly because of the connections of the carbon reduction plans. In doing so, children are concerned about the habits of the natural environment, and they can enhance their learning motivation. Under meat-free day on Monday program, students feel physically healthier and, that they also can maintain a good athletic ability. Children and parents are generally satisfied with the overall learning environment, and they can have a good awareness of the environmental knowledge and ability. Also, this result shows that more and more Taiwanese put emphasis on the perception of green world competitiveness in the future world. Meat-free day program on Monday is satisfied by most children and parents. On the one hand, it certainly can promote children's health and athletic ability of the positive perception. On the other hand, it also enhances to students' natural science learning motivation. The Education authorities can be further integrated with the administrative system of environmental protection, and implement a more systematic and larger-scale carbon reduction plan to promote vegetarianism.

Keywords : Vegetarian Lunch Program、 carbon footprint、 learning attitude、 Behavior.

Table of Contents

封面內頁 簽名頁 中文摘要.....	iii	ABSTRACT.....	iii
.....v 誌謝.....	vii	目錄.....	vii
.....viii 圖目錄.....	x	表目錄.....	x
.....xi 第一章 緒論.....	1	第一節 研究背景與動機.....	1
.....1 第二節 研究目的.....	4	第三節 研究問題與假設.....	4
.....4 第四節 名詞定義.....	5	第五節 研究範圍與限制.....	5
.....6 第二章 文獻探討.....	7	第一節 素食減碳計畫之相關探討.....	7
.....7 第二節 碳足跡之探討.....	12	第三節 素食與肉食對環境之影響與行動.....	12
.....21 第四節 學習態度與行為意向之探討.....	32	第五節 素食之相關研究.....	37
.....21 第三章 研究方法.....	41	第一節 研究架構.....	41
.....41 第二節 研究流程.....	42	第三節 研究對象與取樣.....	45
.....42 第三節 研究對象與取樣.....	45	第四節 研究工具.....	46
.....46 第五節 資料處理與分析.....	47	第四章 研究結果與討論.....	47
.....48 第一節 研究對象背景分析.....	48	第二節 素食減碳計畫下學習態度之分析探討.....	53
.....53 第三節 素食減碳計畫下行為意向之分析探討.....	59	第四節 素食減碳計畫下學習態度、行為意向之相關分析.....	64
.....64 第五節 學生與家長對素食減碳計畫下學習態度、行為意向相關分析.....	66	第五章 結論與建議.....	74
.....66 第五章 結論與建議.....	74	第一節 結論.....	74

.....74 第二節 建議.....77 參考文獻.....
.....79 附錄一 學生問卷.....86 附錄二 家長問卷.....
.....89 附錄三 研究對象素食前後之學業成績比較(A1班--A12班).....94

REFERENCES

- 參考文獻 中文部分 1. 丁月理(2000), 國小學童學習動機、科學批判思考與「自然與生活科技」學習領域學業成就之相關研究, 國立屏東師範學院 數理教育研究所碩士論文。 2. 王貴春(2000), STS教學與國小學生創造力及學習態度之研究, 台北市立師範學院自然科學教育研究所碩士論文。 3. 王志仁(2005), 國小高年級素食兒童健康體適能之現況--以高雄為例, 台南大學體育教學系碩士論文。 4. 朱敬先(1993), 教學心理學, 五南圖書。 台北市。 5. 李登隆(2003), 資訊融入專題導向學習對國小學生自然科學學習態度與問題解決能力之影響, 台北市立師範學院科學教育研究所碩士論文。 6. 李清榮(2004), 高雄市國小教師領導類型、班級氣氛與學習態度之研究, 國立高師師範大學碩士論文。 7. 李福昌(2010), 國小高年級素食兒童健康體適能之現況--以台南市為例, 台南大學體育教學系碩士論文。 8. 巫佳宜(2010), 全球產品碳足跡時代的來臨—紡織業開始準備了嗎? CEO論壇簡報, 台灣經濟研究院紡織研究所。 9. 何偉雲(2001), 初步探討影響學童自然科學學習成就因素的排序, 屏東師院學報, 第14期, 33-52頁。 10. 周清壹(2001), 資訊融入自然與生活科技領域教學對國小學習動機與學習成就的影響, 國立台南大學自然科學教育研究所。 11. 林佳蓉, 陳瑤惠(1999), 幼兒特殊飲食習慣發展研究-以素食飲食習慣的養成為例研究報告, 嘉南藥理科技大學專題報告。 12. 林佩君(2009), 國中學生節能減碳行為意圖及其相關因素之研究--以台北縣某國中為例, 國立台灣師範大學健康促進與教育學系碩士論文。 13. 逸民(2009), 以台灣地區大學生為對象之綠色行銷策略研究, 大葉大學環境工程系碩士論文。 14. 邱皓政(2005), 量化研究法(二)統計原理與分析技術, 雙葉書廊, 台北市。 15. 邱皓政(2006), 量化研究法(一)研究設計與資料處理, 雙葉書廊, 台北市。 16. 姚如芬(1994), 高雄地區高中一年級學生數學學習態度與其數學學習相關研究。 國立高雄師範大學數學教育研究所碩士論文。 17. 孫旭紅(2007), 應用多元智能理論於國小音樂課程對學童音樂學習成就與音樂學習態度之研究, 國立屏東教育大學教育碩士論文。 18. 柯秋塗(2009), 彰化縣國小高年級學童對溫室效應課題的相關知識、態度及行為意向之研究, 大葉大學環境工程系碩士論文。 19. 涂宗呈(2004), 中國中古的素食觀, 臺灣大學歷史學系碩士論文。 20. 陳佩紋(2009), 產品碳標籤對消費者購買決策之影響, 國立台北科技大學環境工程與管理研究所碩士論文。 21. 郭生玉(1990), 心理與教育研究法, 精華書局。 板橋市。 22. 曾玉玲(1993), 台北市高智商低成就國中學生學習信念與相關因素之研究, 國立政治大學教育研究所碩士論文。 23. 張春興(1994), 教育心理學, 東華書局。 台北市。 24. 黃朝凱(2000), 國民小學學童知覺班級氣氛、學習態度與創造傾向之相關研究, 國立嘉義大學國民教育研究所碩士論文。 25. 黃美惠(2001), 中部地區高中(職)生之營養知識、態度、飲食行為及其相關因素之調查研究, 中山醫學大學營養科學研究所碩士論文。 26. 黃志豪(2006), 議題中心教學法之結構性爭議模式應用於國小環境教育之研究, 國立台中教育大學環境教育研究所碩士論文。 27. 葛建志(2005), 國民小學五年級學生數學歸因信念、數學態度、數學焦慮及數學成就之相關研究, 國立台南大學教育經營與管理研究所數學教學碩士班碩士論文。 28. 蔡文標(2002), 影響國小數學低成就學生數學成就的相關因素及直接教學效果之研究, 彰化師範大學特殊教育研究所博士論文。 29. 蔡東融(2009), 有機耕作年其對土壤與蔬菜之影響, 台灣大學農藝研究所碩士論文。 30. 劉晟昊(2010), 素食與心血管危險因子相關之探討, 國立陽明大學公共衛生研究所碩士論文。 31. 簡萍郎(2005), 科學故事融入自然與生活科技學習領域教學對國小學童學習動機與學習態度影響之研究, 國立高雄師範大學碩士論文。 32. 鍾秀媛(2010), 台北縣國小高年級學童節能減碳認知、行動及態度差異之研究, 台北市立教育大學自然科學系碩士論文。 33. 嚴金恩(2007), 素食與非素食兒童及其父母的飲食攝取與營養狀況之研究, 朝陽人文社會學論文集。 網站資料: 1. 行政院網站(2009), 節能無悔、牽手減碳, 2009/10/05取自: <http://www.ey.gov.tw/np.asp?ctNode=1026&mp=1> 2. 台灣產品碳足跡資訊網(2010), 碳標籤產品, 取自 <http://cfp.epa.gov.tw/carbon/defaultPage.aspx> 3. 中華民國全球周一無肉日聯絡平台網站(2010), 取自 <http://www.meatfreeplatform.org/>
- References 1. Alan, D. D., Sharon, F. D, Tara, G., Karen, L., Zaid, C. H., Prof, I. R. (2009), " Public health benefits of strategies to reduce greenhouse-gas emissions food and agriculture ", The Lancet, Vol. 374, No. 9706, pp.2016- 2025. 2. Andrew, J. E. G.(2009), " What is a Carbon Footprint ?Anoverview of definitions and methodologies ", Vegetable Industry Carbon Footprint Scoping Study Discussion , Horticulture Australia Ltd. 3. Catharine, R. G., Ian, J. D., Ingrid, S.& G, D. B.(2007), " IQ in childhood and vegetarianism in adulthood: 1970Britishcohort study ", BMJ, Vol.334 pp.244-245. 4. Cordero, E. C., Todd, A. M.& Abellera, D.(2008), " Climate change educationand the ecological footprint- Bulletin of the American ", American meteorological society, No.6, pp.865-872. 5. Frank, M. S., Allan, D., William, P. C., James, G. Peter, P., Harry, S. M., Lewis, L., & Edward, H. K.(1981), " Effect ofingestion of meat on plasma cholesterol of vegetarians ", Journal of the American Medical Association, No.246(6). pp.640-644. 6. FAO(2007), " Food and Agricultural Organisation of the United Nations, 7. Fiala, N.(2009), " The greenhouse hamburger ", Scientific American Magazine Vol. 250, pp. 62-65. 8. FAO(2006), " Livestock a major threat to environment :Remedies urgently needed. ", FAO Newsroom. 9. Gidon, E. & Pamela, M.(2009), " Vegan diets healthier for planet, people than meat diets ", American Journal of ClinicalNutrition, Vol. 8, No. 5, pp. 710-1716. 10. Goodland, R. & Anhang, J.(2009), " Miscellaneous Livestock and climate change: what if the key actors in climate change cows, pigs, and chicken? ", Livestock Emissions. Vol. 8, pp. 19. 11. Gussow(1994), " Ecology and vegetarian considerations: doesenvironmenta responsibility demand the elimination of livestock? " American Journal of Clinical Nutrition, Vol.59,pp.1110-1116. 12. Gidon, E. & Pameia, M.(2006), " Diet, Energy, and Global Warming ", EarthInteractions, Vol. 10, pp. 9. 13. Giovannucci, E. & Willett, W. C.(1994), " Dietary factors and risk of colon cancer ", Ann Med, Vol 26, pp 443-452. 14. Gary, E. F. (2009) " Vegetarian diets: what do we know oftheir effects on common chronic diseases? " American Journal of Clinical Nutrition, Vol. 89, No. 5, pp 16.7-1612. 15. IPCC(2007), " Fourth Assessment Report ", pp 212. 16. Jessica, B.(2008), " Climate Impacts of Agriculture and Migration

Potential ” , University of Aberdeen, School of Biological-marketcheck, pp. 30-36. 17.Joan, S.(2003), “ The contribution of vegetarian diets to health and disease: a paradigm shift? ” , American Journal of Clinical Nutrition, Vol. 78, No. 3, pp502-507. 18.Lucas, R. & Sam, S. (2003), “ Quantification of the environmental impact of different dietary protein choices ” , American Journal of Clinical Nutrition, Vol. 78, No. 3, pp.664-668. 19.Lewis, S. (1994), “ An opinion on the global impact of meat consumption. ” , American Journal of Clinical Nutrition, Vol.59;pp.1099-1102. 20.Marcia, K. (1991) “ Water inputs in California Food Production. ” Water Education Foundation, pp. 28. 21.Mcmichael, T. (2001), “ Human Frontiers, environments and disease: past patterns, uncertain futures ” , New YORK:Cambridge University Press. 22.Pimentel, D. (1991), “ U.S. could feed 800-millions people with grain that Livestock eat, Cornell ecologist advises animal scientists ” , Cornell Science News. 23.Pimentel D.(1997), “ Livestock production: energy inputs and the environment ” Canadian Society of Animal Science, Vol 47., pp. 17 – 26. 24.Sobal, J.(1999), “ Food System Globalization In Grew R(ed). ” Food in Global History, Boulder, Colorado: Westview Press. 25.Timothy, J. A. K.,Margaret, T., Paul, N. A.& Michael, L.B.(1996), “ Dietary habits and mortality in 11000 vegetarians and health conscious people: results of a 17 year follow up ” and health conscious people: results of a 17 year follow up ” BMJ journals, Vol 313, pp 775. 26.Wackernagel, M. & Rees, W. E. (1996), “ Our Ecological Footprint-Reducing Human Impact on the Earth ” , New Society Publishers Gabriola Island, B. C., Canada. 27.Wiedmann, T., & Minx, J.(2008), “ A Definition of ‘ Carbon Footprint ’ . ” Nova Science Publishers In, C. C. Pertsova, Ecological Economics Research Trends, NO.1, pp. 1-11. 28.Weber, C. L. & Matthews, H. S. (2008), “ Food-Miles and the Relative Climate Impacts of Food Choices in the United States ” , Environ Sci. Technol, No.42(10), pp. 3508 – 3513. 29.Wayne, W., Lindsay, S., & Kumar, V.(2009) “ Measuring the Effects of Food Carbon Footprint Training on Consumers ” Mary Ann Liebery, INC, VOL. 2. NO. 1. 30.Walter, C. W. (1999), “ Convergence of philosophy and science: the Third International Congress on Vegetarians Nutrition ” , American Journal of Clinical Nutrition, Vol. 70, No. 3, pp.434- 438.