

# A Study on the Relationships among Green Sport Participants ' Recreational Environmental Preference, Recreation Experience

周安盈、李城忠

E-mail: 9800886@mail.dyu.edu.tw

## ABSTRACT

This research is based on the concept combining recreational environmental preference and recreation experience with green sport to investigate the influences of green sport on leisure benefits. Most of past studies on leisure tended to be based on the single concept of bikers ' recreational preference or recreation experiences, to investigate bikers ' leisure benefits. The main purpose of this study is to construct a recreational model combining these three elements together to provide related authorities with references to improve recreational environment of biking.

The research subjects were bikers of " Yuan-Dueng-Li Bicycles Association " from Changhua County, the bikers of " Jaguar " from Taichung County, and the participants of " Energy-saving Movement by biking in Nantou " riding at the " Taichung County Houfeng Biking Path. " A model was constructed which demonstrates that how recreational environmental preference and recreation experience influence leisure benefits. The relationships between each variable were analyzed via Structural Equation Modeling. This research collected data by questionnaire survey. A total of 320 questionnaires were distributed, and 290 valid ones were returned. The findings and suggestions are as follows:

1) There are dominant differences between green sport participants and their recreational environmental preferences of biking. 2) There are dominant differences between green sport participants and their recreation experiences of biking. 3) Recreational environmental preference has dominant positive influence on recreation experience. 4) Recreation experience has dominant positive influence on leisure benefits.

In sum, the intentions of participants in biking are mainly to escape from life stress and to join green life. Many elements would influence their recreation experience when they go biking, such as landscape designs on the biking ways, well-designed environment, abundant cultural resources, and fresh new things. Many feelings would be stimulated which helps increase physical, mental, and social leisure benefits, such as cheerfulness, excitement, enthusiasm, recognition of something new, engrossment, confidence, and freedom. Therefore, related authorities should promote the idea of participating in leisure activities to the public through diversified ways. Only when one experiences it on his/her own, can he/she obtain the benefits of leisure activities.

Keywords : recreational environmental preference、recreation experience、leisure benefits

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## REFERENCES

- 一、中文部分
- Godbey, G.(2005), 休閒遊憩概論:探索生命中的休閒(葉怡矜譯), 台北:品度, 2-30, (原文於2003年出版)。
  - 方怡堯(2001), 溫泉遊客遊憩涉入與遊憩體驗關係之研究 - 以北投溫泉為例, 大葉大學休閒管理學系碩士班未出版之碩士論文。
  - 中華民國自?騎士協會(2008), 單?種?與性能[線上資料], 來源: <http://www.cyclist.org.tw/>。
  - 中華民國景觀學會(2008), 台灣地區自行車道系統規劃與設置[線上資料], 來源: <http://www.landscape.org.tw/>。
  - 中華民國自行車騎士協會(2007), 單車基本知識[線上資料], 來源: <http://www.cyclist.org.tw/cyclist/>。
  - 王小璘, 詹欣琪(2000), 都市綠園道遊憩活動特性與環境屬性之研究 - 以台中市經國園道為例, 造園學報, 6(1/2), 1-18。
  - 王國君(1993), 海岸地區遊憩特性及環境偏好之研究 - 以墾丁國家公園南灣海域為例, 戶外遊憩研究, 12, 35-53。
  - 王震宇(1995), 遊憩體驗中之自由感對休閒活動?與情況之影響, 國?台灣大學森?學系未出版之碩士?文。
  - 台中縣?文化中心(2007), 台中縣山線屯區單?逍遙遊[線上資料], 來源: <http://park.org/Taiwan/Cca/center/a307/index.htm>。
  - 台中縣政府交通?遊局(2008), 東豐自??道改善計畫[線上資料], 來源: <http://traffic.taichung.gov.tw/>。
  - 台灣e家族(2008), 綠色運動 - 滑草[線上資料], 來源: <http://www.e-kin.com.tw/image-a/05/05c09.htm>。
  - 行政院環境保護署(2008), 規劃設置自行車之初步構想[線上資料], 來源: <http://www.epa.gov.tw/>。
  - 行政院體育委員會(2008), 台灣地區自行車道系統規劃與設置[線上資料], 來源: <http://www.ncpfs.gov.tw/>。
  - 行政院(2007), 挑戰2008: 國家發展重點計畫[線上資料], 來源: <http://www.cepd.gov.tw/m1.aspx?sNo=0001539&ex=1&ic=0000015>。
  - 行政院經濟建設委員會(2008), 政府規劃推動自行車道路網[線上資料], 來源: <http://www.cepd.gov.tw/m1.aspx?sNo=001036316>。
  - 朱念慈(1989), 大氣因子影響視覺景觀偏好之研究—以陽明山國家公園為例, 國立台灣大學園藝研究所未出版之碩士論文。
  - 李茂能(2006), 結構方程模式軟體AMOS之簡介及其在測驗編制上之應用—Graphics & Basic, 台北市:心理出版社。
  - 李英弘, 梁文嘉(2000), 景觀評估中之心理學模式研究, 造園學報, 7(1), 67-87。
  - 李素馨(1995), 環境知覺和環境美質評估, 規劃與設計學報, 1(4), 53-74。
  - ?素馨, 何英齊(2000), 應用瞳位追蹤方法建?景觀偏好模式之研究, 造園學報, 6(1/2), 71-89。
  - 李麗雪(1998), 台灣傳統庭園的情緒體驗及景觀偏好—以板橋林家花園為例, 國立台灣大學園藝研究所未出版之博士論文。
  - 李麗雪(1998), 台灣傳統庭園的情趣體驗之研究, 第二屆造園景觀與環境規劃設計研究成果發表論文集:休閒理論與遊憩行為篇, 93-107。
  - 呂長民(2001), 行銷研究:研究方法與實例應用(4版), 台北:前程企管。
  - 吳忠宏, ?士彥, 王嘉?(2006), 森?遊?區遊客環境屬性與忠誠?之研究, 運動休閒管?學報, 3(1), 42-56。
  - ?建堯(1999), 自??專用道環境屬性重要?研究, 國?中興大學園藝研究所未出版之碩士?文。
  - 林連池(2002), 海岸遊憩釣者專業層次、釣魚動機與其釣魚環境屬性需求之研究-以高雄縣茄萣鄉與連港區水域為例, 國立體育學院體育研究所未出版之碩士論文。
  - 林靜芳(2004), 清境地區民宿旅客再宿意願之研究, 朝陽科技大學休閒事業管理研究所未出版之碩士論文。
  - 洪佳君(2001), 高山、水體、森林、公園、都市景觀之心理效益, 國立中興大學園藝研究所未出版之碩士論文。
  - 侯錦雄(1990), 遊憩區遊憩動機與遊憩認知間關係之研究, 國立台灣大學園藝研究所未出版之博士論文。
  - 胡曉玄(2008), 八里左岸遊憩資源觀光吸引力之研究, 國立臺灣大學工學院建築與城鄉研究所未出版之碩士論文。
  - 姚代平(2004), 以休閒為動機之業餘戲劇參與者之態度、涉入與休閒效益之探討 - 以台北地區的大學戲劇社員為例, 大葉大學休閒事業管理學系未出版之碩士論文。
  - 馬上鈞(2002), 休閒效益與生活壓?關係之研究 - 以高雄地區郊山登山者為?, 國?台灣師範大學運動休閒與管?研究所未出版之碩士?文。
  - 徐新勝(2006), 衝浪活動參與者之休閒動機、涉入程度與休閒效益關係之研究, 國立中正大學運動與休閒教育研究所未出版之碩士論文。
  - 高俊雄(1995), 休閒利益三因素模式, 戶外遊憩研究, 8(1), 15-28。
  - 郭肇元(2002), 休閒心?經驗、遊憩體驗與身心健康之關係探討, 國?政治大學心?學研究所未出版之碩士?文。
  - 許添本(2007), 綠色運具的利用與發展, 台北市公訓中心課程講義。
  - 張光華(2004), 自行車遊客行為特性之研究-以北海岸風景區為例, 中華大學建築與都市計畫學系碩士班未出版之碩士論文。
  - 張孝銘(2006), 登山冒險遊憩行為模式之研究, 國立體育學院體育研究所未出版之博士論文。
  - 張馨文(2003), 臺灣發展自行車觀光之研究, 觀光研究學報, 9(1), 107-121。
  - 張馨文(2004), 各國發展自行車遊憩經驗之研究, 都市交通季刊, 19(1), 1-10。
  - 陳中雲(2001), 國小教師休閒參與、休閒效益與工作滿意之關係研究, 國立臺灣師範大學運動與休閒管理研究所未出版之碩士論文。
  - 陳怡如(2001), 單身?性輔導教師遊憩體驗之研究, 國?高雄師範大學輔導研究所未出版之碩士?文。
  - 陳怡凱(2008), 自行車騎乘者遊憩專業化與遊憩環境偏好關係之研究, 大葉大學休閒事業管理學系未出版之碩士論文。
  - 陳思倫, 劉錦桂(1992), 影響旅遊目的地選擇之地點特性及市場區隔之研究, 戶外遊憩研究, 5(2), 39-70。
  - 陳珠淑(2005), 大學圖書館員休閒認知、休閒阻礙與休閒效益認知, 大葉大學休閒事業管理學系未出版之碩士論文。
  - 陳耀茂(2004), 共變異數構造分析的AMOS使用手冊, 台北市:鼎茂圖書出版有限公司。
  - 曹勝雄(1998), 金門觀光產業經營環境與策略之探討, 為金門觀光把脈學術研討會論文集, 9-19, 金門:國立高雄科學技術學院金門分部。
  - 黃俊英(2002), 行銷學(2版), 台北市:華泰文化事業。
  - 黃威涵(2007), 新竹市十八尖山登山者休閒效益, 臺北市立教育大學體育學系未出版之碩士論文。
  - 黃淑君, 薛毓屏, ?育慧(1999), 遊憩單?使用者對單?活動的實質環境屬性偏好之研究, 戶

外遊憩研究, 12(4), 43-60。51.黃淑君(2002), 從認知與情感構面探討陽明山魚路古道遊客之環境偏好, 第四屆休閒、遊憩、觀光學術論文研討會, 生態觀光與社區發展篇, 55-66, 台北:中華民國戶外遊憩學會。52.黃淑為(1999), 影響登山步道環境屬性偏好因子之探討--以陽明山國家公園為例, 國立臺灣大學園藝學研究所未出版之碩士論文。53.黃雅?, 陳惠美(2005), 休閒運動態?與?為關係之研究, 戶外遊憩研究, 18(3), 81-102。54.曾慈慧, ?德?, 毛慧芬(2002), 景觀環境的偏好、心?效?認知與生心?反應之研究, 造園學報, 8(2), 25-44。55.董國安(2003), 學校教師休閒活動效益與規劃之探討, 中華體育季刊, 17(2), 139-146。56.楊胤甲(2006), 愛好自行車休閒運動者之流暢體驗、休閒效益與幸福感之研究, 靜宜大學觀光事業研究所未出版之碩士論文。57.劉季華(2005), 比較台灣與大陸遊客其環境屬性、遊憩滿意度與目的地口碑關係之研究:以阿里山森林遊樂區為例, 國立嘉義大學休閒事業管理研究所未出版之碩士論文。58.劉虹伶(2005), 深度休閒者之休閒效益, 大專體育, 78, 116-122。59.劉喜?(1991), ?遊態?在?遊活動決定過程中所扮演的角色, 國?台灣大學森?研究所未出版之碩士?文。60.鄭天明, 吳國清, 陳美存(2007), 不同參與經驗之遊客對展覽節慶的主題意象、活動吸引力、滿意度與休閒效益之影響研究—以高雄燈會為例, 旅遊管理研究, 7(1), 31-54。61.鄭天爵(1993), 遊憩地點的偏好與選擇行為之探討, 宜蘭農工學報, 6, 185-194。62.鄭勵君, 李海清, 邱金松(2007), 墾丁海域休閒潛水者對地方依附重要性與環境屬性滿意?之研究, 大專體育學刊, 9(4), 53-60。63.蕭惠勻(2008), 遊客對休閒農場功能認知與體驗效?之關係 以飛牛牧場為?, 大?大學休閒事業管?學系未出版之碩士論文。64.謝芳靜(2004), 自行車遊憩環境偏好與環境評價之研究-以新竹市十七公里海岸自行車專用道為例, 私立中華大學建築與都市計畫研究所未出版之碩士論文。65.顏妙珊(2006), 台北八里左岸自行車道遊客與管理者對環境屬性知覺差異之研究, 國立體育學院休閒產業經營學系未出版之碩士論文。

二、英文部分

- 1.Ajzen, I. (1991). Benefits of leisure: A social psychological perspective. In B. L. Driver, P. J. Brown & G. L. Peterson(Eds.), Benefits of leisure. State College, Pennsylvania: Venture Publishing, 411-417.
- 2.Antonakos, C. L. (1993). Environmental and travel preferences of cyclists. Unpublished doctoral dissertation, Urban, Technological and Environmental Planning, University of Michigan.
- 3.Arai, S. M., & Pedlar, A. M. (1997). Building communities through leisure: Citizen participation in a healthy communities initiative. Journal of Leisure Research, 29(2), 167-183.
- 4.Bagozzi, R. P., & Yi, Y. (1988). On the evaluation for structural equation models. Journal of the Academy of Marketing Science, 16(1), 74-94.
- 5.Bammel, G., & Burrus-Bammel, L. L. (1982). Leisure and human behavior. Dubuque, Iowa: Wm.C.Brown Company Publisher.
- 6.Barbara, M. (2000). Structural equation modeling with AMOS: Basic concepts, applications, and programming. Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc., Publishers.
- 7.Bell, Fisher, P. A., Baum, J. D. A., & Greene, T. C. (1990). Environmental psychology. Fort Worth, Texas: Dryden Press.
- 8.Bentler, P. M., & Bonett, D. G. (1980). Singnificance tests and good- ness of fit in the analysis of covariance structures. Psycholo- gical Bulletin, 88(3), 588-606.
- 9.Biddle, S., & Mutrie, N. (1991). Psychology of physical activity and exercise. London: Springer-Verlag.
- 10.Bright, A. D. (2000). The role of social marketing in leisure and recreation management. Journal of Leisure Research, 32(1), 12-18.
- 11.Brown, P. J., & Driver, B. L. (1986). Probable personal benefits of outdoor recreation. The President ' s Commission on Americans Outdoor.
- 12.Brunson, M., & Shelby, B. (1990). A hierarchy of campsite attributes setting. Leisure Sciences, 12(2), 197-209.
- 13.Clawson, M., & Knetsch, J. L. (1966). Economic of outdoor recreation. Baltimore, London: The Johns Hopkins University Press.
- 14.Cole, J., & Scott, D. (1999). Segmenting participation in wildlife watching: a comparison of casual wildlife watchers and serious birders. Human Dimensions of Wildlife, 4(4), 44-61.
- 15.Coleman, D., & Iso-Ahola, S. E.(1993). Leisure and health: The role of social Support and self-determination. Journal of Leisure Research, 25(2), 111-128.
- 16.Cordes, K.A., & Ibrahim, H. M. (1999). Application in recreation leisure for today and the future. New York: McGraw-Hill.
- 17.Csikszentmihalyi, M., & LeFevre, J. (1989). Optimal experience in work and leisure. Journal of Personality and Social Psychology, 56, 815-822.
- 18.Denzin, N. K. (1984). On understanding emotion. San Francisco : Jossey-Bass.
- 19.DeVellis, R. F. (1991). Scale development: Theory and applications, applied social research methods series. Newbury Park, California: Sage Publications.
- 20.Driver, B. L. & Bassett, J. R. (1977). Problems of defining and measuring the preferences of river recreationists, 267-272.
- 21.Driver, B. L., Brown, P. J., & Peterson, G. L. (1991). Research on leisure benefits: An introduction to this volume. In B.L. Driver, P. J. Brown, & G. L. Peterson (Eds.), Benefits of leisure (pp. 3-12). State College, Pennsylvania: Venture Publishing, Inc.
- 22.Driver, B. L., & Bruns, D. H. (1999). Concepts and uses of the benefits approach to leisure. In E. L. Jackson, and T. L. Burton(Eds.), Leisure studies (pp. 349-368), State College, Pennsylvania: Venture Publishing, Inc.
- 23.Dumazedier, J. (1974). Sociology of leisure. New York: Elsevier.
- 24.Dustin, D. L., & Goodale, T. L. (1997). The social cost of individual benefits. Park & Recreation, 32(7), 20-22.
- 25.Edginton, C. R., Jordan, D. J., DeGraff, D. G., & Edginton, S. R. (1955). Leisure and life satisfaction: foundational perspectives . Madison: Brown & Benchmark Publishers.
- 26.Ewert, A., & Hollenhorst, S. (1994). Individual and setting attributes of the adventure recreation experience. Leisure Sciences, 16, 177-191.
- 27.Fesenmaier, D. R. (1990). Theoretical and methodological issues in behavioral modeling: Introductory comments. Leisure Sciences, 12, 1-7.
- 28.Field, D. R., & Cheek, N. J. (1974). A basis for assessing differential participation in water-based recreation. Water Resources Bulletin, 6, 1218-1277.
- 29.Fisher, M. (1997). What is the right supply chain for your product. Harvard Business Review, 75(2), 105-116.
- 30.Fornell, C., & Larcker, D. (1981). Structural equation models with, unobservable variables and measurement error. Journal of Marketing Research, 18, 39-50.
- 31.Gerlach-Spriggs, N., Kaufman, R. E., & Warner, S. B. (1998). Restorative gardens: The healing landscape. London: Yale University Press.
- 32.Getz, D. (1991). Festivals, special events, and tourism. New York: Van Nostrand Reinhold.
- 33.Gibson, J. J. (1979). The ecological approach to visual perception . Boston: Houghton Mifflin.
- 34.Gitelson, R., & Kerstetter, D. (1990). The relationship between sociodemographic ariables, benefits and subsequent vacation behavior:A case study. Jounary of Travel Research, 28(3), 24-29.
- 35.Goodale, T. (1993). Park and recreation. Vital Speeches of the Day, 59(20), 632-637.
- 36.Gunn, C. A. (1994). Tourism planning-basics, concept & cases (3th ed.). Washington: Taylor & Francis.
- 37.Gunter, B. C. (1987). The leisure experience: Selected properties. Journal of Leisure Research, 19(2), 115-130.
- 38.Haggard, L. M., & Willams, D. R. (1991). Self-identity benefits of leisure activities. In B. L. Driver, P. J. Brown & G. L. Peterson(Eds.), Benefits of leisure (pp. 103-119), State Collage, Pennsylvania: Venture Publishing, Inc.
- 39.Hair, J. F. J.,

Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. Upper Saddle River, New Jersey: Prentice-Hall.40.

Henderson, K. A. (1996). Broadening an understanding of women, gender, and leisure. *Journal of Leisure Research*, 26(1), 1-7.41.

Heywood, J. L. (1987). Experience preferences of participants in different types of river recreation groups. *Journal of Leisure Research*, 19(1), 1-12.42.

Hollenhorst, S., Schuett, M. A., Olson, D., & Chavez, D. (1995). An examination of the characteristics, preferences, and attitudes of mountain bike users of the national forests. *Journal of Park and Recreation Administration*, 13(3), 41-51.43.

Iso-Ahola, S. E. (1988). The social psychology of leisure: Past, present, and future research. In L. A. Barnett(ed.), *Research about leisure: Past, present and future* (pp. 75-93). Champaign, Illinois: Sagamore.44.

Iso-Ahola, S. E. (1994). Leisure lifestyle and health. In D. Compton & S. Iso-Ahola(Eds.), *Leisure and mental health* (pp. 42-60). Park City, Utah: Family Development Resources, Inc.45.

Iso-Ahola, S. E. (1997). A psychological analysis of leisure and health. In J. Haworth(ed.), *Work, leisure, and well-being* (pp. 131-144). New York: Routledge.46.

Kaplan, R. (1973). Some psychological benefits of gardening. *Environment and Behavior*,5 (2), 145-161.47.

Kaplan, R., & Kalpan, S. (1989). *The experience of nature: A psychological perspective*. New York: Nearby Nature.48.

Kaplan, S. (1988). Where cognition and affect meet: A theoretical analysis of preference. In J. L. Nasar (Ed.), *Environmental Aesthetics--Theory, Research, and Applications*. New York: Cambridge University press.49.

Kelly, J. R., & Godbey, G. (1992). *The sociology of leisure*. Pennsylvania: State College Press.50.

Kelly, J. R. (1989). Later-life leisure: Beginning a new agenda. *Eisure Sciences*, 11(1), 47-59.51.

Krizek, K. J. (2004). Estimating the economic benefits of bicycling and bicycle facilities. *Transportation Research Record, Annual Meeting CD-ROM*, 1-21.52.

Kuentzel, W. F., & Heberlein, T. A. (1992). Does specialization affect behavioral choices and quality judgments among hunters? *Leisure Sciences*, 14, 211-226.53.

Lee, R. G. (1972). The social definition of outdoor recreation place. W. R. Burch, Jr., N. H. Cheek, Jr and L. Taylor. eds. In *Social Behavior, Natural Resources and the Environment*. New York: Harper & Row.54.

Lee, J. H., & Scott, D. (2004). Measuring birding specialization: A confirmatory factor analysis. *Leisure Sciences*, 26, 245-260.55.

Litton, R. B. & Tetlow, R. J. (1971). *Water and landscape an aesthetic overview of the role of water in the landscape*. Port Washington, New York: Water Information Center, Inc.56.

Lusk, Anne, & Christine. (2002). *Guidelines for greenways: Determining the distance to features of and human needs met by destinations on multiuse corridors*. University of Michigan.57.

Lynch, K. (1960). *The image of the city*. Cambridge, Massachusetts, The MIT Press.58.

Mannell, R. C., & Kleiber, D. A. (1997). *A social psychology of leisure*. State College, Pennsylvania: Venture Publishing.59.

Mannell, R. C., & Stynes, D. J. (1991). A retrospective: the benefits of leisure. In B. L. Driver, P. J. Brown & G. L. Peterson (Eds.), *Benefits of leisure*(pp.461-473). Stage College, Pennsylvania: Venture Publishing.60.

Manning, R. E. (1999). *Studies in outdoor recreation* (2nd ed.). Corvallis, Oregon: Oregon State University Press.61.

Marsh, H. W., Balla, J. R., & McDonald, R. P. (1988). Goodness of fit indexes inconfirmatory factor analysis : The effect of sample size. *Psychological Bulletin*, 103(3), 391.62.

Parry , D. C., & Shaw, S. M. (1999). The role of leisure in women?s experience of menopause and midlife. *Leisure Science*, 21, 205-218.63.

Philipp, S. F. (1997). Race, gender, and leisure benefits. *Leisure Science*, 19, 191-207.64.

Reuterberg, S. E., & Gustafsson, J. E. (1992). Confirmatory factor analysis reliability: Testing measurement model assumptions. *Educational and Psychological Measurement*, 52, 795-811.65.

Ritchie, B. W. (1998). Bicycle tourism in the South Island of New Zealand: Planning and management issues. *Tourism Management*, 19(6), 567-582.66.

Robinson, D. W. (1992). A descriptive model of enduring risk recreation involvement. *Journal of Leisure Research*, 24(1), 52-63.67.

Schreyer, R. & Beaulieu, J. T. (1986). Attribute preferences for wildland recreation settings. *Journal of Leisure Research*, 18, 231-247.68.

Sekuler, R. & Blake, R. (1994). *Perception* (3rd Ed): McGraw-Hill, Inc.69.

Stebbins, R. A. (1980). Amateurs and hobbyist as concepts for the study of leisure problems. *Social Problems*, 27(4), 413-418.70.

Stebbins, R. A. (1992). *Amateurs, professionals, and serious leisure*. Montreal, Quebec: McGill-Queen ' s University Press.71.

Steiger, J. H. (1989). A Supplementary module for system and sysgraph. Illinois: Systat.72.

Step toe, A., & Bolton, J. (1988). The short-term influence of high and low intensity physical exercise on mood. *Health and Psychology*, 2, 91-106.73.

Stockdale, J. E. (1989). Concepts and measures of leisure articipation and preference. In E. L. Jackson & T. L. Burton (Eds.), *Understanding leisure and recreation: Mapping the past, charting the future*. State College, Pennsylvania: Venture Publishing, 113-150.74.

Tinsley, H. E. A., & Tinsley, D. J. (1986) .A theory of the attributes, benefits, and causes of leisure experience. *Leisure Sciences*, 8, 1-45.75.

Unger, L. S., & Kerman, J. B. (1983). On the meaning of leisure: An investigation of some determinants of the subjective experience. *Journal of Consumer Research*, 9, 381-392.76.

Verduin J. R., & McEwen D. N. (1984). *Adults and their leisure*. Spring Field, Charles C Thomas.77.

Virden, R. J., & Schreyer, R. (1988). Recreation specialization as an indicator of environmental preference. *Environment and Behavior*, 20(6), 721-739.78.

Williams, K. L. (1995). Bandwidth of the strong product of paths and cycles. *Congressus Numerantium*, 109, 123-128.79.

Woodside, A. G., & Steven L. (1989). A general model of traveler destination choice. *Journal of Travel Research*, 27, 8-14.