A Study on Relationships of Cyclists 'Leisure Motivation and Enduring Involvement to Their Flow Experience

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ABSTRACT

This research was aimed at exploring relationships among cyclists 'leisure motiva-tion, enduring involvement, and flow experience. Using a convenience sampling method, twenty-two cycling clubs were first se-lected from a list of mid-Taiwan bikes 'clubs. Then, members of these clubs were solic-ited to respond to a 4-page questionnaire. Six hundreds of questionnaires were distrib-uted. A total of 463 completed questionnaires were returned, yielding a response rate of 77.2%. Initial descriptive statistics were run in order to examine the demographic and participation patterns of the sample. Reliability analysis was conducted to test all the scales. In addition, t-test, one-way ANOVA, Pearson correlation and content analysis were performed for data analysis. A majority of the sample were male. Most of the respondents were over the age of 40, and reported monthly incomes of NT\$20,001~60,000. They were primarily married, and had graduated from senior high schools. Respondents had been cycling for an av-erage of 4.76 years. The results of bivariate analyses indicated that: 1. there were significant differences in leisure motivation among cyclists with varied demographic background. (i. e., gender, residence, age, marital status, education and monthly income); 2. there were significant differences in enduring involvement among cyclists with varied demographic background. (i.e., gender and monthly income); 3. there were significant differences in flow experience among cyclists with varied demographic background. (i.e., gender, age, marital status and monthly income); 4. there was a significant positive, linear relationship between cyclists 'cycling behavior and enduring involvement; 5. there was a significant positive, linear relationship between cyclists 'cycling behavior and enduring involvement; 6. there was a significant positive, linear relationship between cyclists 'leisure motiva-tion and enduring involvement; 7. there was a significant positive, linear relationship between cyclists 'enduring in-volvement and flow experience; and 8. there was a significant positive, linear relationship between cyclists' leisure motiva-tion and flow experience. Finally, according to the findings, discussion was made and recommendations were offered to related organizations and future studies. Key Words: cyclists, leisure motivation, enduring involvement, flow experience

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2005高雄縣單車觀光文化季(2005),活動專區[線上資料],來源: http://kscgbike. myweb.hinet.net [2006, September 17]。 Ballantine, R., & Grant, R. (2004). 自行車聖經(黃小萍譯), 台北:貓頭鷹, (原文於1992年出版)。 Bammel, G., & Burrus-Bammel, L. L. (1996). 休閒與人類行 為(涂淑芳譯),台北:桂冠圖書,(原文於1995年出版)。 Csikszentmihalyi, M. (1998).生命的心流(陳秀娟譯),台北:天下遠見,(原文於1997年 出版)。 Csikszentmihalyi. M. (2001). 快樂從心開始(張定綺譯),台北:天下遠見,(原文於1990年出版)。 Godbey, G. (2000a). 21世紀的休閒與 休閒服務(張春波、陳定家等譯),昆明:雲南人民出版社,(原文於1997年出版)。 Godbey, G. (2000b). 你生命中的休閒(康?譯),昆明:雲南人 民出版社,(原文於1994年出版)。 王文科(2000),教育研究法(7版),台北:五南。 台灣地區俱樂部名單(2006, August 15),單車誌,27 , 162-163。 全台自行車道報給你知(2006, August 15), 單車誌, 27, 159。 自行車新文化基金會(2006), 國際無車日[線上資料], 來源: http://www.cyclingland.org.tw/car-1.asp [2006, November 27]。 行政院主計處(2006), 95年10月人力資源調查統計月報[線上資料]。 來源: http://www.dgbas.gov.tw/ct.asp?xItem=16701 &ctNode=3247 [2006, December 15]。 行政院體育委員會(2005), 95年度運動人口倍增實施 計畫[線上資料],來源: http://www.ncpfs.gov.tw/news/news3-1.aspx? No=97# [2005, December 28]。 行政院體育委員會(2004),推行全國 自行車道系統計畫[線上資料],來源: http://www.sac.gov.tw/annualreport/Quarterly 141/index.htm [2006, July 12]。 余玥林(2004),單車活 動參與者的目標取向、社會支持和休閒型態對休閒效益的影響,雲林科技大學休閒運動研究所碩士 論文。 吳永發(2006),路跑運動參與 者持續涉入、休閒效益與幸福感之研究,國立體育學院體育推廣學系碩士論文。 吳萬益(2000),企業研究方法,台北:華泰文化。 步道 萬里車道千里611健康開步走(2006),單車誌線上電子報,111[線上資料]。來源: http://www.cycling-update.info/k/ cu_eNews_main/cycling_cu_eNews.htm [2006, May 15]。 兩馬觀光季白馬王子、鐵馬公主選拔,玩全台灣旅遊網[線上資料],來源: http://www.okgo.com.tw/news/20060821225 732.html [200 6, August 21]。 周盟桂(2001), 路徑,高雄:串門文化。 洪震宇,林慧純(2006, April 1), 單車悠遊風現在最流行, 康健雜誌, 89, 40-42。 馬克褚工作室(2006), 路線資料庫[線上資料], 來源: http:// www.markchoo.com.tw [2006, October 15]。 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 畫學系碩士論文。 張孝銘,林樹旺,余國振(2004,2),慢跑消費者活動參與動機持續涉入與休閒行為之相關研究,大專體育學刊 ,6(1) ,83-93。 張佩娟(2003),休閒運動參與動機與滿意度之相關研究以雲林醫院員工為例,雲林科技大學休閒運動學系碩士論文。 張春 興(1995a),張氏心理學辭典,台北:東華書局。 張春興(1995b),心理學,台北:東華書局。 梁建文(2005),以消費者產品偏好調查探討市 場分群與產品屬性之關聯 - 以登山自行車為例,東海大學工業設計學系碩士論文。 郭淑菁(2003),登山社員休閒涉入、休閒滿意度與幸 福感之研究,大葉大學休閒事業管理學系碩士論文。 陳心怡(2004),自行車騎乘者專業化程度與場所依戀關係之研究以台中大度山區騎 乘者為例,逢甲大學建築研究所碩士論文。 陳正昌(2004),行為及社會科學統計學統計軟體應用,台北:巨流。 陳偉仁(2005),水肺潛水 活動之遊憩動機、持久性涉入及專門化關係之研究,銘傳大學觀光研究所碩士論文。 陳嘉維(2003),自行車造形喜好對騎乘心理感受影 響之研究,朝陽科技大學設計研究所碩士論文。 彭逸芝(2005),遊憩自行車使用者之遊憩涉入與地方依附關係之研究,銘傳大學觀光研 究所碩士論文。 曾建榮(2006, March 15), 創新服務科專騎出台灣自行車島,技術尖兵,135,7-9。 黃文宗(2006), 彰化市國小教師休閒 運動參與動機與參與現況之研究,大葉大學休閒事業管理學系碩士論文。 黃淮琪(2006, March 15),差異化創新台灣自行車享譽國際,技 術尖兵,135,2-3。 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碩士論文 。 趙文祺(2004),體驗教育活動參與者內在動機、活動投入程度與神馳體驗關係之探討,大葉大學休閒事業管理學系碩士論文。 鄭育 雄(2003),遊憩專門化衡量指標之研究。以自行車活動為例,靜宜大學觀光事業研究所碩士論文。 賴子敬(2003),台中市高爾夫參與者參 與動機和參與行為之研究,朝陽科技大學休閒事業管理學系碩士論文。 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,中華大學建築與都市計畫學系碩士論文。 謝清秀(2004),大專網球選手休閒動機休閒參與及休閒滿 意之研究,國立體育學院體育研究所碩士論文。 鍾偉志(2006),認真性休閒與參與動機、休閒阻礙關係之研究 - 以網球活動為例,南華 大學旅遊事業管理研究所碩士論文。 聶喬齡(2000),以心理技能運動表現與運動流暢經驗的關係研究,國立體育學院體育研究所碩士論 文。 魏攸芳(2006), 2006苗栗國際無車日暨龍鳳漁港電動車嘉年華,大台灣旅遊網[線上資料]。來源: http://www.trave I-web.com.tw/Show/Style1/News/c1_News.asp?SItemId=0271030&ProgramNo=A000001000001&SubjectNo=33969&Page=1 [2006, September 19]。 國際無車日(2005),關於無車日緣由[線上資料],來源: http://www.traffic.tpc.gov.tw/bicycle/p05.html [2006, September 9] 。 Ajzen, I. (1991). The theory of planned behavior. Organizational Be-havior and Human Decision Processes. 50, 179-211. Ballantine, R., & Grant, R. (1992). Ultimate bicycle book. London: Dorling & Kindersley. Bammel, G., & Burrus-Bammel, L. L. (1995). Leisure and human be-havior (3rd ed.). Dubuque, Iowa: William C. Brown. Belk, R. W. (1975). Situational variables and consumer behavior. Journal of Consumer Research, 2, 157-164. Bloch, P. H. (1990). Involvement, enthusiasm, fanaticism: An inter-disciplinary perspective on commitment to recreational pursuits. Paper presented at the National Recreation and Park Association, Leisure Research Symposium, Phoenix, AZ. Bloch, P. H. & Bruce, G. D. (1984), Product involvement as leisure behaviour, Advances in Consumer Research, 11, Provo, Utah: Association for Consumer Research, 197-202. Bryan, H. (1977), Leisure value system and recreational specialization: the case of trout fishermen, Journal of Leisure Research, 9, 174-187. Clarke, G. S., & Haworth, T. J. (1994). Flow experience in the daily lives of sixth-form college students. British Journal of Psy-chology, 85, 511-523. Coleman, D., & Iso-Ahola, S. E. (1993). Leisure and health: The role of social support and self-determination. Journal of Leisure Re-search, 25(2), 111-128. Confer, J., Vogelsong, H., Graefe, A., & Solan, D. (1996). Relation-ships between motivations and recreation activity preferences among Delaware State Park visitors: An exploratory analysis. In: Kuentzel, W. (ed.). Proceedings of the 1996 Northeastern Rec-reation Research Symposium. USDA Forest Service General Technical Report NE-232, 146 – 153. Crandall, R. (1980). Motivations for Leisure. Journal of Leisure Re., search, 12 (1), 45-53. Csikszentmihalyi, M. (1975). Beyond boredom and anxiety. San Fran-cisco, California: Jossey-Bass, Inc.

Csikszentmihalyi, M. (1988). The flow experience and its significance for human psychology. In M. Csikszentmihalyi & I. Csikszent-mihalyi, I. (Eds.) (1988). Optimal experience: psychological studies of flow in consciousness (pp. 15-35). New York: Cam-bridge University Press. Csikszentmihalyi, M. (1990). Flow: The psychology of optimal ex-perience. New York: Harper & Row. Csikszentmihalyi, M. (1997). Finding flow: The psychology of en-gagement with everyday life. New York: Basic Books. Csikszentmihalyi, M. (2000). The contribution of flow to positive psychology: Scientific essays in honor of Martin E. P. Seligman. In J. E. Gillham, (Ed.), The science of optimism and hope. (pp. 387-395). Philadelphia: Templeton Foundation Press. Dimanche, F., Havitz, M. E., & Howard, D. R. (1991). Testing the in-volvement profile scale in the context of selected recreational and touristic activities. Journal of Leisure Research, 23(1), 51-66. Driver, B. L. (1976). Quantification of outdoor recreationists' prefer-ences research. Camping and Environmental Education, Penn State Series II, University Park, Pennsylvania: Penn State Uni-versity. Driver, B. L. (1977). Item pool for scales designed to quantify the psychological outcomes desired and expected from recreation participation. Unpublished. USDA Forest Service, Fort Collins, CO: Rocky Mountain Forest and Range Experiment Station. Driver, B.L. (1983). Master list of items for Recreation Experience Preference scales and domains. Unpublished document. USDA Forest Service, Fort Collins, CO: Rocky Mountain Forest and Range Experiment Station. Driver, B. L. & Brown, P. J. (1975). A social-psychological definition of recreation demand, with implications for recreation resource planning. Assessing Demand for Outdoor Recreation, 12(8), 62-88. Driver, B. L., & Knopf, R. C. (1976). Temporary escape: One product of sport fisheries management. Fisheries, 1, 2-29. Driver, B. L., & Tocher, S. R. (1970). Toward a behavioral interpreta-tion of recreation engagements with implications for planning. In B.L. Driver (Ed.), Elements of Outdoor Recreation Planning, Ann Arbor, Michigan: University Microfilms Mich. Ewert, A. (1994). Playing the edge: Motivation and risk taking in a high-altitude wilderness environment. Environment and Behav-ior, 26(1), 3 – 24. Godbey, G. (1994). Leisure in your life: An exploration (4th ed.). State College, Pennsylvania: Venture Publishing. Godbey, G. (1997). Leisure and leisure services in the 21st century. State College, Pennsylvania: Venture Publishing. Graefe, A. R., Ditton, R. B., Roggenbuck, J. W., & Schreyer, R. (1981). Notes on the stability of the factor structure of leisure meanings. Journal of Leisure Research, 4, 51-65. Graefe, A. R., Thapa, B., Confer, J. J., & Absher, J. D. (2000), Rela-tionships between trip motivations and selected variables among Allegheny National Forest visitors. USDA Forest Service Pro-ceedings, RMRS-P-15-VOL-4. Guieford, J. P. (1965), Fundamental statistics in psychology and edu-cation (4th ed.). New York: McGram-Hill. Gunter, B. G., & Gunter, N. C. (1980). Leisure styles: A conceptual framework for modern leisure The Sociological Quarterly, 21(Summer), 361-374. Havitz, M. E., & Dimanche, F. (1990). Propositions for guiding the empirical testing of the involvement construct in recreational and tourist contexts. Leisure Sciences, 12, 179-196. Havitz, M. E., & Dimanche, F. (1997). Leisure involvement revisited: Conceptual conundrums and measurement advances. Journal of Leisure Research, 29(3), 245-278. Havitz, M. E., & Howard, D. R. (1995). How enduring is enduring involvement: A seasonal examination of three recreational ac-tivities. Journal of Consumer Psychology, 4(3), 255-276. Havitz, M. E., & Mannell, R. C. (2005). Enduring involvement, situ-ational involvement, and flow in leisure and non-leisure activi-ties. Journal of Leisure Research, 37(2), 152-177. Haworth, J. T., & Iso-Ahola, S. E. (1997). Work, leisure and well-being. New York: Routledge. Homans, G. C. (1974). Social behavior: Its elementary forms (Rev. ed.). New York: Harcourt Brace Jovanovich. Houston, M. J., & Rothschild, M. L. (1978), Conceptual and meth-odological perspectives on involvement, Research Frontiers in Marketing: Dialogues and Directions, Subhash C. Jain, ed., Chicago: American Marketing Association, 184-187. Iso-Ahola, S. E. (1989). Motivation for leisure. In E. L. Jackson & T. L. Burton (Eds.), Understanding leisure and recreation: Map-ping the past charting the future (pp. 247-279), State College; R. A. Venture Publishing, Jackson, S. A., & Csikszentmihalvi, M. C. (1999), Flow in sports; The keys to optimal experiences and performances. Champaign, IL: Human Kinetics. Jackson, S. A., & Eklund, R. C. (2002). Assessing flow in physical ac-tivity: The Flow State Scale-2 and Dispositional Flow Scale-2. Journal of Sport & Exercise Psychology, 24, 133-150. Jackson, S. A., & Eklund, R. C. (2004). The Flow Scales manual. Morgantown, West Virginia: Fitness Information Technology. Jackson, S. A., Ford, S. K., Kimiecik, J.C., & Marsh, H. W. (1998). Psychological correlates of flow in sport. Journal of Sport and Exercise Psychology, 4, 358-378. Jackson, S. A., & Marsh, H.W. (1996). Development and validation of a scale to measure optimal experience: The Flow State Scale. Journal of Sport & Exercise Psychology, 18, 17-35. Keeling, A. (1999). Cycle turism, Information Pack TT21: Sustrans routes for people. United Kingdom: Sustrans Charity [Online]. Available: http: www.sustrans.org.uk [2006, October 17] Kim, S., Scott, D., & Crompton, J. (1997). An exploration of the rela-tionships among social psychological involvement, behavioral involvement, commitment, and future intentions in the context of birdwatching. Journal of Leisure Research, 29(3), 320 - 341. Knopf, R., & Lime, D. (1984). A Recreation Manager 's Guide to Un-derstanding River Use and Users. USDA Forest Service General Technical Report WO-38. Knopf, R. C., Driver, B. L., & Bassett, J. R. (1973). Motivations for fishing. In transactions of the 28th American Wildlife and Natural Resources Conference. (pp.191-204). Washington, D.C., Wildlife Manegements institute. Krugman, H. E. (1965). The Impact of Television Advertising Learn-ing Without Involvement, Public Opinion Quarterly, 29, 349-356. Kyle, G. T., Absher, J., & Hammitt, W. (2005). An examination of the motivation-enduring involvement relationship. Proceedings of The 2005 Northeastern Recreation Research Symposium (pp. 238-246). U.S. Dept. of Agriculture, Forest Service, Northeast-ern Research Station. Kyle, G. T., & Mowen, A. J. (2003). An examination of the relation-ship between leisure constraints, involvement, and commitment. Proceedings of The 2003 Northeastern Recreation Research Symposium, GTR-NE-317, 328-337. LaChausse, R. G. (2006). Motives of competitive and non-competitive cyclists. Journal of Sport Behavior, 29(4), 304-314. Larsen, J. (2002). Selected bicycle promotion initiatives around the world, Bicycle statistics, Earth Policy Institute [On line]. Available: http://www.ibike.org/library/statistics-data.htm [2006, October 29] Laurent, G., & Kapferer, J. N. (1985). Measuring consumer involve-ment profiles. Journal of Marketing Research, 22(1), 41-53. Lawler, E. E. (1973). Motivations in work organizations. Monterey, California: Brooks/Cole. Manfredo, M. J. (1984). The comparability of onsite and offsite meas-ures of recreation needs. Journal of Leisure

Research, 16(3), 245-249. Manfredo, M. J., Driver, B. L., & Tarrant, M. A. (1996). Measuring leisure motivation: A meta-analysis of the Recreation Experi-ence Preference Scales. Journal of Leisure Research, 28(3), 188-213. Mannell, R. C. (1993). High investment activity and life satisfaction among older adults: Committed, serious leisure and flow activities. In J. R. Kelly (Ed.), Activity and aging (pp. 125-145). Newbury Park, California: Sage Publications. Mannell, R. C., & Kleiber, D. A. (1997). A Social Psychology of Leisure. State College, Pennsylvania: Venture Publishing. Maslow, A. H. (1970). Motivation and personality (2nd. ed.). New York: Harper & Row. McIntyre, N. (1989). The personal meaning of participation: Enduring involvement, Journal of Leisure Research, 21(2), 167-179. McIntyre, N. (1992). Involvement in risk recreation: A comparison of objective and subjective measures of engagement. Journal of Leisure Research. 24, 64-71. McIntyre, N., & Pigram, J. J. (1992). Recreation specialization reex-amined: The case of vehicle-based campers. Leisure Sciences, 14, 3-15. Moneta, G. B., & Csikszentmihalyi, M. (1996). The effect of per-ceived challenges and skills on the quality of subjective experi-ence. Journal of Personality, 64, 275-310. Mozer, D. (2006). Bicycle history. International Bicycle Fund [Online]. Available: http://www.ibike.org/library/historytimeline.htm#ch ronology [2006, October 7] Mygatt, E. (2005, 12). Selected bicycle promotion initiatives around the world, 2005, Earth Policy Institute [Online]. Available: http://doi.org/10.1007/j.com/pdf.2005.0007/j.com/pdf.200 //www.earth-policy.org/Indicators/Bike/Bike_data.htm#fig1 [2006, November 12] Novak, T. P., & Hoffman, D. L. (1997). Measuring the flow experi-ence among web users. Paper presented at Interval Research Corporation, Project 2000, Vanderbilt University. [Online]. Available: http://www2000.ogsm.vanderbilt.edu/ [2006, No-vember 12] Park, S. H. (1996). Relationships between involvement and attitudinal loyalty constructs in adult fitness programs. Journal of Leisure Research, 28, 233-250. Petty R. E., Cacioppo J. T., Schumann D (1983). Central and Periph-eral Routes to Advertising Effectiveness: The Moderating Role of Involvement, Journal of Consumer Research, September: 135-146. Ray, P. H., & Anderson, S. R. (2000). The cultural creatives: How 50 million people are changing the world. New York: Harmony Books. Richins, M. L., & Bloch, P. H. (1986), After the new wears off: the temporal context of product involvement, Journal of Consumer Research, 13(2), 280-285. Richins, M. L., Bloch, P. H., & McQuarrie, E. F. (1992). How en-during and situational involvement combine to create involve-ment responses. Journal of consumer psychology, 1(2), 143-153. Ritchie, B. W. (1998). Bicycle tourism in the South Island of New Zealand: Planning and management issues. Tourism Manage-ment, 19(6), 567-582. Rosenthal, D. H., Driver, B. L., & Waldman, D. (1982). Construct va-lidity of instruments measuring recreationists ' preferences. Lei-sure Sciences. 5, 89-108. Rothschild, M. L. (1984), Perspectives on involvement: current prob-lems and future directions, Advances in Consumer Research, 11, 216-217. Selin, S.W., & Howard, D. R. (1988). Ego-involvement and leisure behavior: A conceptual specification. Journal of Leisure Re-search, 20, 237-244. Sherif, M., & Cantril, H. (1947), The Psychology of Ego-involvement, New York: John Wiley and Sons. Sherif, M., & Hovland, C. I. (1961), Social Judgment: Assimilation and contrast effects in communication and attitude change. New Haven: Yale University Press. Stebbins, R. A. (1980). Amateurs and hobbyist as concepts for the study of leisure problems. Social Problems, 27(4), 413-418. Stebbins, R. A. (1982). Serious leisure: A conceptual statement. Pa-cific Sociological Review, 25, 251-272. Stebbins, R. A. (1992). Amateurs, professionals, and serious leisure. Montreal: McGill-Queen 's. Stebbins, R. A. (1996). The barbershop singer: inside the social world of a musical hobby. Toronto, Canada: University of Toronto Press. Stebbins, R. A. (2001). Serious leisure. Society, 38(4), 53-57. Stone, R. N. (1984). The marketing characteristics of involvement. Advances in Consumer Research, 11, 210-215. Thapa, B., Confer, J., & Mendelsohn, J. (2004). Trip motivations among water-based recreationists: Policies, methods and tools for visitor management. Proceedings of The Second Interna-tional Conference on Monitoring and Management of Visitor Flows in Recreational and Protected Areas, Rovaniemi, Finland, Todd, S. L., Graefe, A. R., & Mann, W. (2002). Differences in scuba diver motivations based on level of development, in scuba diver motivations based on level of development. In: Todd, S. (comp., ed.). Proceedings of the 2001 Northeastern Recreation Research Symposium (Gen. Tech. Rep. NE-289, 107-114). Trembath, E. M., Szabo, A., & Baxter, M. J. (2002). Participation mo-tives in leisure center physical activities.

[Online]. Available: http://www.athleticinsight.com/Vol4Iss3/ LeisureCenterParticipationMotives.htm [2002, December 2] Vilter, J., Blahna, D., & Van Patten, S. (1995). Trends in experience and management preferences of mountain bikers. In: Thompson, J.L., Lime, D.W., Gartner, B. & Sames, W.M. (comp.). Pro-ceedings of the Fourth International Outdoor Recreation and Tourism Trends Symposium and the 1995 National Recreation Resource Planning Conference; May 14 – 17; St. Paul, Minne-sota: University of Minnesota, College of Natural Resources and Minnesota Extension Service. Voelkl, J. E., & Ellis, G. D. (1998). Measuring flow experiences in daily life: An examination of the items used to measure challenge and skill. Journal of Leisure Research, 30(3), 380-389. Voelkl, J. E., & Ellis, G. D. (2002). Optimal experience in daily life: Examination of the predictors, dimensions and outcomes. In Abstracts from The 2002 Leisure Research Symposium, Ashburn, Virginia: National Recreation and Park Association. Voelkl, J., Ellis, G., & Walker, J. (2003). Go with the flow. Parks & Recreation, 38(8), 20-29. Walker, J. (2002). Exploring the influence of the individual's ability to experience flow while participating in a group-dependent activity on individual satisfaction with a group's performance. Unpublished doctoral dissertation, Clemson University, Clem-son, South Carolina. Watkins, M. (1987). The influence of involvement and information search of consumers 'choice of recreation activities (Doctoral dissertation, University of Oregon, 1986). Dissertation Abstracts International, 47, 3560A. Webster, J., Trevino, K. L. & Ryan, L. (1993). The dimensionality and correlates of flow in human-computer interactions, Computers in Human Behavior, 9(4), 411-426. Wellman, J. D. (1979). Recreational response to privacy stress: A validation study. Journal Leisure Research. 11(1), 61-73. Whitmore, J. G., & Borrie, W. T. (2005). Exploring the usefulness of the Dispositional Flow Scale for outdoor recreation activities. Proceedings of The 2005 Northeastern Recreation Research Symposium (pp. 371-378). U.S. Dept. of Agriculture, Forest Service, Northeastern Research Station. Willy, C. G., Shaw, S. M., & Havitz, M. E., (2000). Men 's and women 's involvement in sports: An examination of the gen-dered aspects of leisure involvement. Leisure Sciences, 22, 19 – 31. Earth Policy Institute(2006). World bicycle and

automobile production, 1950-2003.

[Online]. Available: http://www.earth-policy.org/ Indicators/Bike/Bike_data.htm#fig1 [2006, November 2] Zaichkowsky, J. L. (1985). Measuring the involvement construct. Journal of Consumer Research, 12(Dec), 341-355.