



SMR

Asia Sport Management Review

Volume 4 / Number 1 / 2011

Published by TASSM & AASM



From the supporting of AASM to the Japanese
who are suffering in the 311 disaster.

Foreword from the Chief Editor

During the editing process of the 4th Volume of Asia Sport Management Review (ASMR), I have deeply impression about the frequently interactions among the Asian sport management professionals, such as over 5 hundred participants from different countries around the world have attended the 2010 AASM Conference, Kuala Lumpur, Malaysia; more and more international cooperation among the Asian sport management professional colleagues; and various of Asian sport management professional institutes have signed their exchanging agreement to share their experiences to one another. I believe the sport management professional performances in Asia area should have a great progress through the above activities.



Under this circumstance, I would like to encourage our AASM colleagues do not hesitate to open your minds to learning from one another and to share your valuable international experiences to our sport management community, especially submitting your manuscripts related to the cross culture comparisons in the field of sport management to the official academic journal of Asian Association for Sport Management (AASM)—ASMR then generate more influences on our professional discipline.

In this issue, I appreciate the authors of these 5 papers from China, Malaysia, and Taiwan for their academic contributions. In additions, I also would like to thank our editors: Mr. Kang, Chen-Nan; Mr. Chou, Yu-Hui Alex; Miss Wu, Shou-Chun Hand; and Miss Chen, Sz-Ying Silvia for their efforts to publish this issue.

Finally, I want to take this chance to represent AASM for providing the warmest greetings to all the Japanese to overcome from the 311 disaster. May God bless you.

Sincerely yours,

Kong Ting Yeh, ED. D



Editor

Professor/ National Taiwan Sport University (NTSU)

President, Taiwan Society for Sport Management (TASSM)

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Assessing the Economic Impact of A Sport Event

Kuo-Tung Lin

Kainan University

Kong-Ting Yeh

National Taiwan Sport University

I-wu Tung

Tungnan University

Yang Shih-Chieh*

Yung Chiao Investment Corporation

*Corresponding author: Yang Shih-Chieh

Yung Chiao Investment Corporation

alex0718@ms17.hinet.net

Assessing the Economic Impact of A Sport Event

Abstract

Economic impact studies have been applied to a wide range of sporting events, which are increasingly viewed as an economic development tool in addition to their recreational benefits. Many sporting events bring a financial gain from games and attendance to the host community each year. It has been suggested that three key factors in an economic impact study should be controlled: data collection methods, use of a multiplier, and interpretation of the results (Wang & Irwin, 1993). This paper illustrates the steps involved in conducting economic impact assessments. Examples from the data analysis of the 1998 Taiwan Area Games are also presented.

Key words: input-output model, direct impact, indirect impact, induced impact

Introduction

Economic impact studies have been applied to a wide range of sport events, which are increasingly viewed as an economic development tool in addition to their recreational benefits. Sport services such as tournaments, races, and championships are focal attractions, drawing non-residents into an economy where they often spend money on accommodations, retail goods, transportation, and meals (Turco, 1995). Most recreation and sport directors consider it extremely important to know the local economic impact of their program offerings, but believe that such measurement requires outside expertise (Richardson, Long, & Perdue, 1988).

There are several reasons why the public and private sectors support sport events. One consideration is to bring tourist dollars into a region during the off season or during periods when the number of visitors is lower than normal. Furthermore, sport events create and stimulate economic activity on an annual basis-and thereby provide impetus for employment opportunities. Such attractions also provide promotional and exposure opportunities for the community to a specific market and may enhance or create a community image. There are other benefits of sporting events to the community that are difficult to quantify, including enhanced image, resident participant satisfaction, and civic pride (Yardley, MacDonald, & Clarke, 1990; Turco, 1994).

This paper illustrates the steps involved in conducting economic impact assessments. Examples from the data analysis of the 1998 Taiwan Area Games are presented in this paper.

Basic Concepts

There are three factors will affect a sport economic impact: (a) multiplier principle, (b) expenditure leakage, and (c) input-output model (Turco, 1995).

Multipliers are used in determining the economic impact of sport events, which include output or sales multipliers, income multipliers, and employment multipliers. The multiplier concepts are used frequently and their correct application is important in determining the economic impact of a sport event.

A multiplier is defined as a number that represents the continued re-spending and the increased value to the local community of each dollar originally spent (Tribe, 1999). Usually, policy makers need to know the total impact in order to measure the tax revenues. The multiplier is simply described as the total effect of a sport service (direct and indirect) divided by the direct effects. A local economy consists of many businesses, which buy from and sell to other businesses within the area and outside the region. Three different types of multipliers are commonly reported. They are sales, income, and employment multipliers. Because the first two of these are both measured in dollars, they are often confused. A sales multiplier measures the direct, indirect, and induced effect of an extra unit of visitor spending on economic activity within a host community. It relates visitor expenditures to the increase in business turnover that it creates. In contrast, an income multiplier measures the direct, indirect, and induced effect of an extra unit of visitor spending on the changes that result in level of household income in the host community (Crompton, 1995). The multiplier takes into account the interrelationships of businesses within a local economy. The more independent or self-sufficient the local economy, the greater will be the multiplier. Similarly, the larger the local economy under studies the larger will be the multiplier.

According to Turco (1995), the basic concept of the sales multiplier indicates that visitor spending into an area does not stop as soon as the dollar has been spent. Visitors who come into a community from outside the local economy to attend sport events bring with them dollars that they spend locally. A portion of these dollars then recirculates through the local economy before slowly leaking out to pay for basic

purchases and supplies elsewhere. The portion of the re-spending that stays in the community is the multiplier effect and that portion that is lost to re-spending elsewhere is termed "leakage."

Related to the multiplier principle is the concept of expenditure leakage (Turco, 1995). Many sporting events often rely upon non-resident businesses to provide essential goods and services such as entertainment, food, beverage, and souvenirs. At this point, non-resident allied businesses may leave the local economy with a considerable amount of revenue. Monies collected by these allied businesses must be subtracted from the direct economic impact subtotal to accurately estimate net economic impact. To determine the vendor factor, subtract resident spending at allied event businesses by the local operating expenditures made by these businesses.

The Input-Output Model

However, most local community economies do not have coefficients calculated for them and the cost of performing an original survey to determine the coefficient would be prohibitive for the researcher interested in the impact of sport events on a local economy. It may be a difficult task to track the original spending that occurs due to the sport event. In order to measure the total impact of new spending on an economy, all the changes in all demands must be determined (Hefner, 1990).

The input-output model is an accepted method of measuring the economic impact of a sport event on a local economy. Leontief developed the model in 1941 and it is now an econometric model that depicts the output of one industrial sector as the input of other sectors and vice versa. The idea of the system is to lay out the flow of goods and services among the different sectors of an economy matrix. The figures in the cells of the horizontal rows represent the outputs (goods and services the industry

turns out and sells to others) of the industry named at the left, and the figures in the cells of the vertical columns represent the input (goods and services the industry buys from others) to the industry at the top of each column (Fletcher, 1989). Thus, the output of each industry (or sector) is always the input of some other industry, and each figure represents both input and output. In other words, each industry's sale (output) is another industry's purchase (input).

The sum of all the outputs of an industry represents the total sales of its products and the sum of all the inputs of an industry represents the total purchases from other industries. To turn a given set of input-output relations drawn from empirical data into a tool for predicting or planning future needs, a table of input-output coefficients is drawn up. In a coefficient table, the figure in each cell expresses the ratio of the input from the industry in whose row the cell appears to the total output of the industry in whose column that cell appears. Studying the relationships of inter-industry transactions on an input-output table, one can see how much and which materials an industry has to buy in order to produce the products it turns out year by year.

However, the main outcome of this model is the multiplier effect. Proper use of the methodology cannot be overemphasized, as the value of impact studies hinges on correct application of the model and appropriate interpretation of the data. As a cautionary word, one must guard against the use of over-inflated multipliers (Hefner, 1990).

Crompton (1995) indicated that problems with data exist, such as determining accurate local expenditure patterns. Furthermore, since economic impact studies often rely on survey data, these problems are compounded by the statistical problems inherent in the analysis of survey data. However, criticism of economic impact studies due to these acknowledged problems is unwarranted. Data problems notwithstanding, the measurement of the economic impact of sporting events and facilities using a

correctly applied input-output analysis provides relevant and useful information for policy makers.

Economic Impact Assessment

For the objective of this paper, economic impact is defined as the net change in a host economy directly attributed to sport services. There are basically two elements that contribute to the economic impact of sport services on local communities. First, is the degree to which the service stimulates sales by non-residents. Second, is the degree to which residents and local businesses purchase their goods and services. Increasing either one of these components can increase the operation's economic impact on the local economy. In order to assess the economic impact of a sport event, both of these elements should be estimated for the area. The economic effects of conducting a sport event and investing in sport development projects spending are often categorized into primary (direct) and secondary (indirect and induced) impact. These terms are briefly explained below.

Direct Impact

Direct impact arises from transactions closely related to the event, such as material and labor purchases made to produce the event or the expenditures for various goods and services for event patrons both on and off the event site (Archer, 1996). These transactions include construction, labor, the host society budget, and expenditures by event patrons, including spectators, special guests, media, athletes, cultural performers, officials, coaches, and team staff.

Indirect Impact

Indirect impact includes the chain of events that result from the direct effects, including changes in employment levels, gross regional product, and institutional income like personal income or government revenue. Non-monetary benefits, such as increased awareness and enhanced image of the host community, are also considered secondary impacts of a national sporting event. The secondary impact is the ripple

effect of additional rounds of re-circulating the initial spectators' dollars.

Induced Impact

The induced effects of initial spending occur when agents producing for, or supplying, the sporting event and its sponsors hire more staff or pay additional payment. After they withdraw a certain portion of this increased income for taxes and savings, these households spend this additional income. In turn, this increases demand for other commodities within the sporting event. In other words, it is the further ripple effect caused by employees of impacted businesses spending some of their salaries and wages in other businesses in the city (Crompton, 1995).

Return on Investment

Except for the use of multipliers, measuring financial return on investment (ROI) is also an extension in traditional economic impact calculations (Turco, 1994). Public sector ROI factors in the operating revenues and local tax revenues generated by the event and returned to the host community into event operating expenditures (Figure 1). It behooves event organizers to compute tax revenues generated into this equation because budget decision makers often judge the worthiness of the special event on the size of the return on investment (ROI).

$$ROI = \{ ER + LTR \} / EE$$

$$ER = \textit{Event revenue}$$

$$LTR = \textit{Local tax revenue directly attributed to the event}$$

$$EE = \textit{Event expenditures}$$

Figure 1 Public sector financial return on investment (ROI)

Steps to Determine Economic Impact

Turco (1995) indicated that there are five steps to determine economic impact.

The five steps include:

Step I. Determine Scope of Study

The first step in economic impact assessment requires determining the scope of the study. This involves designating sources of economic impact, defining the local economy, and determining the types of information sought. It must be decided which sources of economic impact will be evaluated. Depending on the nature of the service the following sources of economic impact may be studied: Participants, spectators, event-sponsoring organization, allied event businesses (i.e., food and beverage vendors, entertainers, etc.).

Step II. Devise Data Collection Strategy

Once the scope of the research project has been determined a strategy must be developed that will yield valid and reliable data. There are numerous data collection methods that have been employed in economic impact research studies each with advantages and disadvantages. It is up to the economic impact researchers and the agency commissioning the study to select the method or methods most appropriate for their event. A summary of data collection techniques is featured in Table 1, describing the respective advantages and disadvantages of different data collection methods.

Table 1 Summary of economic impact data collection methods

Data Collection Methods	Advantage	Disadvantage
1. Mail-back Survey	Relative low cost	No-response bias Slow, low return
2. Exit Interview	Allows for interpretation	Labor intensive High refusal rate
3. On-site Interview	Allows for interpretation	Labor intensive
4. Telephone Survey	Allows for interpretation	Labor intensive Long distance costs
5. Systematic Selection, Self-administered	Low labor intensity	Incentive to complete may be needed
6. Self Selection Self-administered	Lowest labor intensity	Sample bias
7. Secondary Data Sources	Low cost, labor	Attribution, time lag

Note. Adapted from Turco (1995)

Step III. Develop Data Collection Instrument

Instruments used to collect market data may include questions addressing the following area:

- | | |
|----------------------------------|------------------------------------|
| 1. Group Size | 7. Number of Visits to Event |
| 2. Group Residency | 8. Reasons for Visiting Local Area |
| 3. Length of Stay in Local Area | 9. Spectator Satisfaction |
| 4. On-Site Spending by Category | 10. Promotion Effectiveness |
| 5. Group composition | 11. Group demographic profile |
| 6. Off-Site Spending by Category | |

Categories of on-site spending vary depending on the nature of the event and may include food and beverages, souvenirs, and entertainment; off-site expenditure categories often request expenditure information on lodging, meals, retail shopping, gasoline, and miscellaneous purchases (Turco, 1995).

Step IV. Data Analysis

When the data of an event are collected, it must be analyzed and interpreted to provide meaningful information. Descriptive statistical analyses such as frequency, mean, median, mode, range, and cross tabulation, are sufficient to achieve the purpose of most event market research studies.

Step V. Report Writing/Presentation of Results

Results of the event research project should be prepared in writing and presented to the event planning committee, public officials and other interested parties. The report should include an executive summary of key findings, description of the research methods, in-depth presentation of results, conclusions and recommendations.

The following section is a case example in the 1998 Taiwan Area Games. The secondary data of the 1998 Taiwan Area Games was generated from a survey administrated by the Ministry of Education in Taiwan. The purpose of this case study is to attempt to describe the methods and results of the economic impact of a sport event.

The Taiwan Area Games

Event Description

The Taiwan Area Games was held in Tainan County in October. It is a seven-day event featuring 8,529 athletes from 23 counties and cities in Taiwan. Normally, Tainan County and its neighboring city have a combined population of

2,893,075 people. During the Taiwan Area games, the number of spectators, media, athletes, officials, coaches, and team staff in attendance was estimated to be 220,000.

Data Collection Methods

A questionnaire was developed by the official statistic bureau of the Ministry of Education in Taiwan. They tried to measure accurately expenditures of spectators and team members for all categories of possible spending: lodging, meals, gasoline, retail shopping and miscellaneous spending sources. Other questions included on the survey instrument were spectator demographic information (age, gender, and residence), spectator groups size, all expenses about the event, and source of visitor's information about the event.

A trade-off between costs and benefits will decide whether channel intermediaries are necessary to perform some of event services. Figure 2 shows the economic impact channels of the Taiwan Area Games.

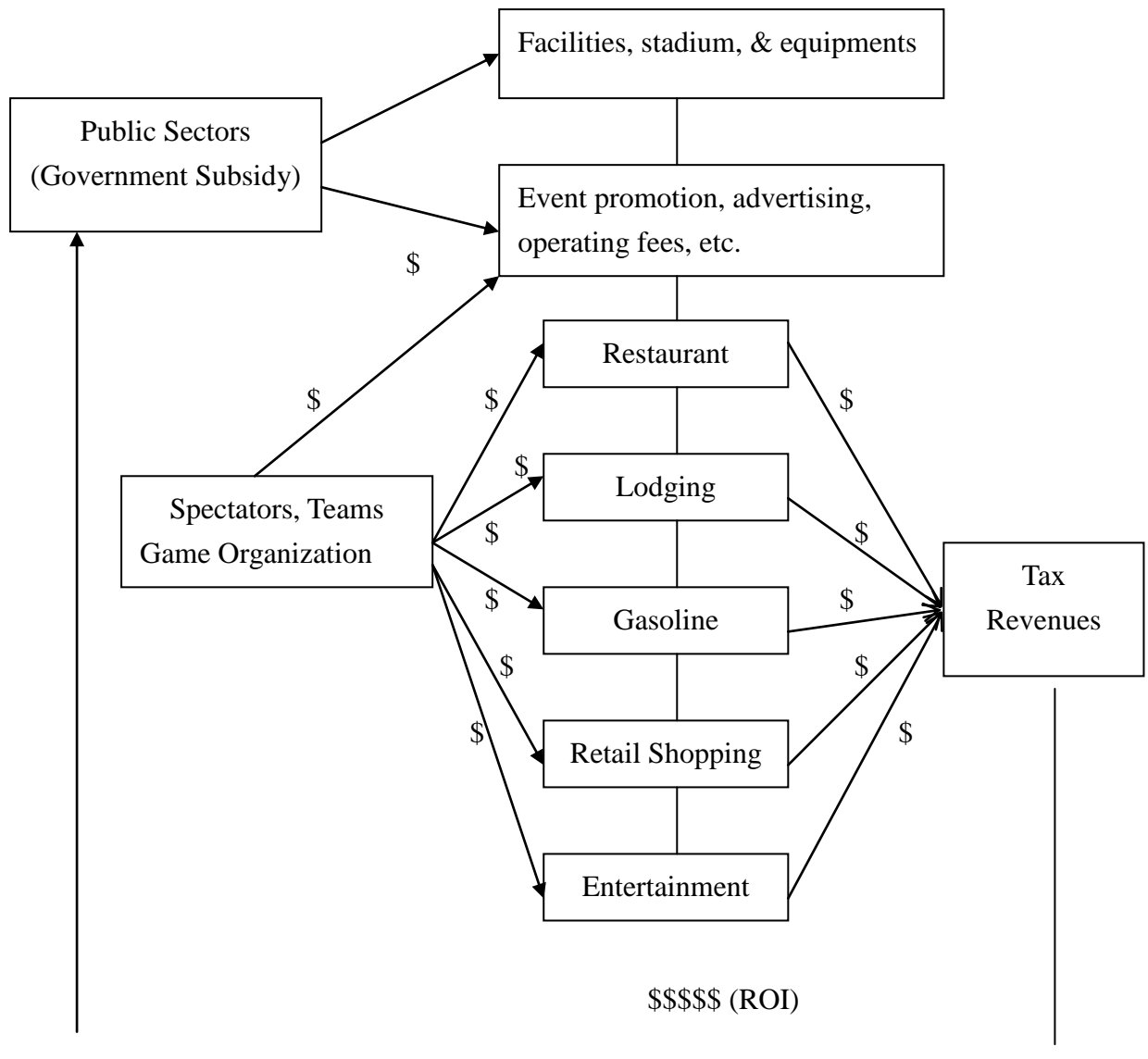


Figure 2 Economic impact channels of the Taiwan Area Games

Demographics

According to the Taiwan Area Games survey by the Ministry of Education in Taiwan, some demographics about the spectators are shown in Table 2.

Table 2 Demographics of the Taiwan Area Games participation (N = 1727)

Demographics	Segment in %	Demographics	Segment in %
Gender		Annual Income (US \$)	
Male	61.3%	Under \$10,000	12.3%
Female	38.7%	\$10,000 - \$19,999	19.4%
Age Distribution		\$20,000 - \$29,999	38.2%
Under 15	2.1%	\$30,000 - \$39,999	11.0%
15—20	26.7%	\$40,000 - \$49,999	9.1%
21—25	18.4%	\$50,000 - \$59,999	7.7%
26—30	12.6%	\$60,000 - \$69,999	1.7%
31—40	20.4%	Over \$70,000	0.6%
Over 40	19.8%	Education	
Residence		H.S. / Less	35.1%
Resident	73.6%	College Grad	59.6%
Nonresident	26.4%	Grad School	5.3%

Note. Source from the official statistic bureau of the Ministry of Education.

Spectator Spending

Table 3 illustrates the spectator expenditures by category, off and on the tournament grounds. These expenditures were derived from a question on the survey that asked spectators about their spending behavior in the period of the Taiwan Area Games regarding such things as food and beverages, lodging, gasoline, retail purchases, and entertainment.

Table 3 Spectator expenditures of the Taiwan Area Games

Category	Mean	Person-time	Total	Percent of Total
Meal/Food/Beverage	\$ 70.28	98,914	\$ 6,951,676	19.3%
Lodging	78.68	98,914	7,782,554	21.6%
Gasoline	77.56	98,914	7,671,770	21.3%
Retail Shopping /Souvenirs	69.79	98,914	6,903,208	19.2%
Entertainment	59.5	98,914	5,885,383	16.3%
Other	8.19	98,914	810,106	2.3%
Total	\$ 364		\$ 36,004,696	100%

Source: The official statistic bureau of the Ministry of Education.

Spectators to the Taiwan Area Games spent approximately \$3.6 million at Tainan City during the seven days of the event. The average spectator group spent approximately \$364 off the tournament grounds, primarily for lodging, meals, retail items, and gasoline. This money is attributed as economic impact from the tournament of Tainan County.

Total Economic Impact

The direct economic impact of the Taiwan Area Games is \$40,794,572 (Table 4). This figure is the sum of spending by resident and nonresident spectators, teams, and the tournament organization within the 1998 Taiwan Area Games.

Table 4 *Direct Economic Impact of the Taiwan Area Games*

(In US dollar)

Spending Source	Direct Spending
Spectators	
Residents	\$ 25,812,696
Nonresidents	10,192,000
Teams	3,104,556
Tournament Organization	1,685,320
Total Direct Impact	\$ 40,794,572

Tax Revenues and Event Expenditures

Tainan County directly received \$3,263,566 in gross receipts and lodging tax revenues as a result of the event. Most of the event expenditures of the 1998 Taiwan Area Games came from public subsidy. It has been estimated that subsidy from county and national government to the event alone is approximately \$12,757,575 million. The public investors included Tainan County government, the Ministry of Education in Taiwan, the Committee of Physical Education of Executive, Ministry of Transportation and Communication, General Association of Sports, and Olympic Affairs Association of R.O.C.

Return on Investment

Costs to produce a sporting event often include payment to local government units for such services as traffic control (police department), emergency medical rescue (fire department), and refuse collection (public works department) and account for as much as 40 percent of the operating budget (Turco, 1995). According to Turco (1995), economic impact research has been extended to include measurement of a service's financial return on investment (ROI) to the host government. In this case, the formula for estimating financial ROI is as follows.

$$\begin{aligned}
 \text{ROI} &= [\text{ER} + \text{LTR}] / \text{EE} \\
 &= [\$12,757,575 + \$3,263,566] / \$12,757,575 \\
 &= \$16,021,141 / \$12,757,575 \\
 &= 126\%
 \end{aligned}$$

Where *ER* = *Event revenue*

LTR = *Local tax revenue directly attributed to the event*

EE = *Event expenditures*

Figure 3 Return on investment (ROI) of the Taiwan Area Games

Summary

Procedures were outlined in this case for determining the economic impact and financial return on investment of a sport event host community and local government. This result supports the findings of previous research on sport events (Archer, 1995; Turco & Navarro, 1993). In the Taiwan Area Games, approximately \$40,794,572 in direct spending can be attributed to the event. The event also generated \$3,263,566 in local tax revenue for the government of Tainan County. A 126% financial ROI was achieved by the government from its original \$12,757,575 investment in the tournament.

Findings from economic impact assessments of sport events that include ROI need to be brought to the attention of sport organizers and to budget decision makers in local governments. Such data can be meaningful and effective when persuading decision-makers of the economic contribution that recreation and sporting events make to the local community. These elements may lead to community to bid successful to host similar scale sport events in the future.

Conclusion

The purpose of the study was to feature the value of economic impact and conservative procedure for assessing economic impacts of a sport event. It is important that the results include the direct expenditures, the multiplier, and a range of economic impact estimates. Wang and Irwin (1993) indicated that the direct expenditures are the least biased measure of the event's economic worth because no assumptions are made concerning the multiplier effect. When a multiplier is applied to account for indirect and induced impacts, it should be thoroughly explained as to legitimize the choice.

However, economic impact analyses are overestimated by using improper research procedures and improper multipliers. According to Wang and Irwin (1993), a sophisticated input-output model may be neither affordable nor necessary for economic analysis of small scale sporting events such as this case sample. Therefore, the described procedures should have considerable utility for event directors.

This paper has suggested that a conservative measure of an event's financial contribution is better than an inflated figure based on unrealistic assumptions. A conservative measurement must be rigorous in its data collection procedure, application of multiplier, and interpretation of results.

Finally, sport event administrators should find an economic impact study valuable for luring bids from perspective host communities as well as attracting event sponsors. The demographic data and expenditure patterns of participants can be provided to civic directors and local businesses to encourage support as well as sport event sponsorship.

References

- Archer, B. (1996). Economic impact analysis. *Annals of Tourism Research*, 23(3), 704-707.
- Archer, B. (1995). The impact of international tourism on the economy of Bermuda. *Journal of Travel Research*, 34(2), 27-30.
- Brunet F. (1996). An Economic Analysis of the Barcelona '92 Olympic Games: Resources, Financing, and Impact. *The key to success*. [Online serial]. Retrieved October 13, 2000, from <http://www.blues.uab.es/olympic.studies/articles/brunet.html>
- Crompton, J. L. (1995). Economic impact analysis of sports facilities and events: eleven sources of misapplication. *Journal of Sport Management*, 9(1), 14-35.
- Fletcher, J. E. (1989). Input-output analysis and tourism impact studies. *Annals of Tourism Research*, 16, 514-529.
- Hefner, F. L. (1990). Using economic models to measure the impact of sport on local economies. *Journal of sport and social issues*, 14(1), 1-13.
- Howard, D. R., & Crompton, J. L. (1995). *Financing Sport*. Morgantown, WV: Fitness Information Technology.
- Richardson, S. L., Long, P.T., & Perdue, R. R. (1988). The importance of economic impact to municipal recreation programming. *Journal of Park and Recreation Administration*, 6(4), 65- 78.
- The Statistical Information of Taiwan Province*. (2000). Retrieved November 11, 2000, from <http://proxy.tpg.gov.tw/bas>
- Tourism Information*. (2000). Retrieved November 11, 2000, from http://www.tbroc.gov.tw/tbroc99_3w_eng/tour_info/user/north.htm
- Tribe, J. (1999). *The Economic of Leisure and Tourism* (2nd ed.). Woburn, MA: Butterworth Heinemann.

- Turco, D. M. (1995). Measuring the economic impact of a sporting event. 1995 North American Society for Sport Management Annual Conference.
- Turco, D. M. (1994). Measuring the economic impact of a mega-event. *Visions in Leisure and Business, 14*(1), 30-42.
- Turco, D. M. & Navarro, R. C. (1993). Assessing the economic impact of a national sport championship. *Sport Marketing Quarterly, 3*(4), 24-32.
- Wang, P., & Irwin, I. (1993). An assessment of economic impact techniques for small sport events. *Sport Marketing Quarterly, 2*(3), 33-37.
- Yardley, J. K., MacDonald, J. H. & Clarke, B. D. (1990). The economic impact of a small short- term recreation event on a local economy. *Journal of Park and Recreation Administration, 4*, 71-82.

Appendix A

1998 Taiwan Area Games Questionnaire

(In US dollar)

Gender: F M

Age: <15 15-20 21-25 26-30 31-40 >40

Tainan Resident: Yes No

Annual Income: <\$10,000 \$10,000-\$19,999 \$20,000-\$29,999
 \$30,000-\$39,999 \$40,000-\$49,999 \$50,000-\$59,999 \$60,000-\$69,999
 >\$70,000

Education: HS/Less College Grad Grad School

1. Meal / Food / Beverage (For entire time in Taiana)

<\$0 \$1-\$10 \$11-\$20 \$21-\$30 \$31-\$40 \$41-\$50
 \$51-\$60 \$61-\$70 \$71-\$80 \$81-\$90 \$91-\$100 >\$100

2. Lodging (Directly related to game attendance)

<\$0 \$1-\$10 \$11-\$20 \$21-\$30 \$31-\$40 \$41-\$50
 \$51-\$60 \$61-\$70 \$71-\$80 \$81-\$90 \$91-\$100 >\$100

3. Gasoline (For entire time in Taiana)

<\$0 \$1-\$10 \$11-\$20 \$21-\$30 \$31-\$40 \$41-\$50
 \$51-\$60 \$61-\$70 \$71-\$80 \$81-\$90 \$91-\$100 >\$100

4. Retail Shopping / Souvenirs (Excluding game merchandise)

<\$0 \$1-\$10 \$11-\$20 \$21-\$30 \$31-\$40 \$41-\$50
 \$51-\$60 \$61-\$70 \$71-\$80 \$81-\$90 \$91-\$100 >\$100

5. Entertainment (movies, KTV, recreation, etc.)

<\$0 \$1-\$10 \$11-\$20 \$21-\$30 \$31-\$40 \$41-\$50
 \$51-\$60 \$61-\$70 \$71-\$80 \$81-\$90 \$91-\$100 >\$100

6. Other

<\$0 \$1-\$10 \$11-\$20 \$21-\$30 \$31-\$40 \$41-\$50
 \$51-\$60 \$61-\$70 \$71-\$80 \$81-\$90 \$91-\$100 >\$100

Examining factorial invariance of an organizational dynamics model across two countries

Sung-Bae Park

Ganzaga University Graduate School of Business

Mei-Yen Chen

National Taiwan Sport University

Yun-Ci Ye

National Taiwan Sport University Graduate Institute of Physical Education

Yuon-Lu Wu

Sports Affairs Council Department of Planning

Wei-Li Lin*

National Taiwan Sport University

*Corresponding author: Wei-Li Lin

Department of Recreation and Leisure Industry Management, National Taiwan Sport University, Taiwan. 250, Wen Hua 1st Rd, Kueishan, Taoyuan County, Taiwan, Republic of China

Abstract

This study applies the invariance approach of organizational dynamics model to samples of nonprofit Korea and Taiwan national Olympic sporting organizations. The purpose of the study was to determine the psychometric properties of the scales developed within each of the four components the organizational dynamics model. One hundred seventy-one workers from 30 NOSOs participated in this study. Initial SEM analysis resulted in the model were fit well. In cross-group analyses, the model was factorial invariance across the two groups, which indicated that the items were good for measurement basis. Possible mechanisms of this relation, limitations, and practical implications are discussed.

Keywords: Organizational Effectiveness, Measurement Invariance, Multi-groups.

Introduction

An organization consists of groups of people who work interdependently toward some purpose and who play a major and continuing role in the lives of people.

The typical definition of organization is the pattern of communications and relations among a group of human beings, including the processes for making and implementing decisions (Simon, 1997). This pattern provides to organization members much of the information and many of the assumptions, goals, and attitudes that enter into their decisions as to what the other members of the group are doing and how they will react to what one says and does.

Organizational behavior (OB) is a field of inquiry that studies what people think, feel, and do in and around organizations (Mullins, 1999). OB also refers to the attitudes and behaviors of individuals and groups in an organization. How members feel about pay, their commitment to the workgroup or organizations, their willingness to work overtime, and job performance are examples of important attitudes and behaviors in the workplace (Doherty, 1998). Consequently, a common definition of OB is the study and understanding of individual and group behavior and patterns of structure in order to help improve organizational performance and effectiveness. OB concepts are helpful in predicting and understanding organizational events, adopting

more accurate theories of reality, and influencing organizational events more effectively (Mullins, 1999; Robbins, 1998; Slack, 1997).

Organizational effectiveness is the prime dependent variable in many organizational contexts (Cameron, 1986; Chelladurai & Haggerty, 1991), and its multidimensionality, according to Chelladurai and Haggerty (1991), is the cause of conceptual ambiguities and measurement difficulties. What constitutes effectiveness is in itself a paradox. There appears to be no universal agreement on precisely what organizational effectiveness means, as organizational effectiveness means different things to different people. Although there is no definitive meaning of organizational effectiveness, the majority of authors agree that organizational effectiveness requires measuring multiple criteria and the evaluation of different organizational functions using different characteristics, and it should also consider both means (processes) and ends(outcomes).

Moreover, Gubrium and Holstein (2002, p. 475) indicated that there are two contextual factors as moderator variables in OB: external organizational factors and internal organizational factors. External organizational factors include national culture, legal requirements, labor market conditions, and the industry sector; while internal organizational factors include macro and micro variables. Internal macrovariables include the organizational culture, leadership, organization.

This study constructed and tested a linear relationship model to explain the Olympic Sport Organizations' outcomes which include members' job satisfaction, organizational commitment, and turnover intention both in Korea and Taiwan. In addition, this study examined factorial invariance of an organizational dynamics model across two countries. In other words, the study wanted to test the fit of the model assumed to underlie the organizational dynamics independently for the Olympic Sport Organizations in Korea and Taiwan.

Methodology

2.1. Participants

The total sample (N = 171; 54% male and 46% female; 68% Taiwanese and 32% Korean) with average age of 34.38 years old (SD = 7.96 years) were collected from the Olympic Sport Organizations in Korea and Taiwan. The average number of employees in the Olympic Sport Organization was 64 members (SD = 35 members). Boomsma (1987) recommended that a sample size for structural equation modeling (SEM) should be at least 200 in order to lower the risk of drawing the wrong conclusions. Boomsma (1987) stated: "Besides severe risks of no convergence, the researcher working with a sample size smaller than 100 has a probability of facing the

difficulties of improper solutions; therefore, he or she should have a sample size of at least 200. Depending on the expected covariance structure in the population, a sample size of 100 could very well suffice” (p. 171).

2.2. Instrumentation

2.2.1 Multifactor Leadership Questionnaire (MLQ)

The 14-item version of the MLQ was developed from Bass’s (1985) framework. It has been revised several times and is now widely used (Bycio, Hackett, & Allen, 1995). Primarily, it measures various aspects of transactional and transformational leadership. Both leadership dimensions will be composed of 7 items with each item rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The item responses are summed within each dimension to create overall transactional and transformational leadership. For the original inventory, the estimates of internal consistency based on Cronbach’s alpha for the transactional and transformational leadership factors were .88 and .72. Moreover, the confirmatory factor analyses provided evidence that the two-factor transactional-transformational structure showed an adequate fit to the data (Bycio et al., 1995).

2.2.2. Role Conflict and Ambiguity (RC-RA) Scale

The RC-RA (Rizzo et al, 1970) scale consists of 12 items, six items measuring

role conflict and eight items measuring role ambiguity. The RC-RA scale is rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The responses to the items are summed, and high scores indicate greater role conflict and greater role ambiguity, respectively. The estimates of internal consistency based on Cronbach's alpha for the RC scale was .66 and the RA scale was .67. Moreover, confirmatory factor analyses provided evidence that the two-factor RC-RA structure showed an adequate fit to the data (Johnson, Parasuraman, Futrell, & Black, 1990).

2.2.3. Organizational Commitment Questionnaire (OCQ)

Mowday et al. (1982) developed the OCQ to measure a member's organizational commitment. The 15 items are rated on a 5-Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A higher score indicates the member has higher organizational commitment for the Olympic Sport Organizations. The 11-item OCQ explained 70.93% of the variance on organizational commitment by the current data, and the estimate of internal consistency based on Cronbach's alpha was .93.

2.2.4. Job Satisfaction Questionnaire

Wood et al. (1986) developed a measure for job satisfaction, and the 14 Likert-scale items are rated on a scale from 1 (strongly disagree) to 5 (strongly agree). A higher score indicates the member has a higher job satisfaction in the Olympic Sport Organizations. The 14-item measurement explained 55.62% of the variance on

job satisfaction, and the estimate of internal consistency based on Cronbach's alpha was .90.

2.2.5. Turnover Intentions Questionnaire

Huang and Lin (1999) investigated the effects of motivation, job satisfaction, and turnover intention among retail organizations in Taiwan. They developed a turnover intention questionnaire based on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). 3-item measurement explained 53.18% of the variance on turnover intention, and the estimate of internal consistency based on Cronbach's alpha was .76.

2.3. Instrument Translation

The instrument translation needs to be loyal to the original context of the source instrument, and it should also reflect a cultural understanding of the target language (Bracken & Barona, 1991). According to Bracken and Barona (1991), the commonly suggested translation techniques are: (a) the use of interpreters; (b) the direct translation technique; (c) the bilingual translation technique; (d) the committee approach; (e) the field-test procedure; (f) the back-translation technique. The most applied technique is the back-translation technique. The advantage of the back-translation technique is that it offers the opportunity for revisions that can enhance the reliability and accuracy of the translated instrument (Bracken & Barona,

1991; Van de Vijver & Poortinga, 1997). Therefore, the back-translation technique was utilized to obtain consistency by comparing the Chinese and Korean versions and English version instruments.

2.4. Analytical Procedures

LISREL version 8.52 (Jöreskog & Sörbom, 1993) was utilized to answer the second research question and the tests of invariance of factor structures for the Korean and Taiwanese members of the Olympic Sport Organizations in each country would involve (a) testing for the equality of the covariance structure of the observed variables; (b) testing the invariance of the two-factor pattern; (c) testing the invariance of the factor pattern and factor loadings; (d) testing the invariance of the factor pattern, factor loadings, and error terms; and (e) testing the invariance of the factor pattern, factor loadings, error terms, and covariance structure of latent variables.

According to Hu and Bentler (1996), there are four commonly used fit indices to examine measures or model fit. First, the chi-squared (χ^2) goodness-of-fit statistic measures the differences between the sample covariance (or correction) matrix and the covariance (or correction) matrix based on the model (i.e., the fitted covariance matrix). A model that perfectly fits the data will produce a χ^2 goodness-of-fit value equal to zero. Large or statistically significant values of the χ^2 goodness-of-fit indicate a poorly fitting model. A major criticism of the χ^2 goodness-of-fit value is

that highly sensitive to sample size such that models based on large sample size will almost produce large and significant χ^2 goodness-of-fit value (Byrne, 1998). Consequently, Byrne (1998) suggested that one “rule of thumb” is to look at the ratio of the χ^2 goodness-of-fit to its degrees of freedom. Ratio 2 and under generally suggest reasonable fit. Based on the effect of sample size on the χ^2 goodness-of-fit value, most scholars (Hu & Bentler, 1996) advocated that the χ^2 goodness-of-fit value should be used in conjunction with other measures of fit that are not as sensitive to sample size such as the indices of NNFI, CFI, and RMSEA.

Finally, in terms of using combinations of fit indices, Hu and Bentler (1996) recommended a cutoff value of close to .95 for the NNFI and CFI in conjunction with a cutoff value of .09 (or less) for the standardized root mean squared residual. Finally, when looking at combinations of the RMSEA and standardized root mean squared residuals, they suggested using RMSEA values smaller than .05 (or .06) in conjunction with standardized root mean squared residuals of .06 and lower.

Result

Structural equation model for organizational dynamics model

The single-group SEM analyses across the nationality were conducted by

LISREL 8.52 based on the hypothesized organizational dynamics models of the Korean and Taiwan members of the Olympic Organizations in each country. SEM analysis of the model fit for the Taiwan members of the Olympic Organizations. The results of SEM revealed that the organizational dynamics model just provided a reasonable model fit of the Taiwan members in the Olympic Organization which the fit statistics were reported as follows: χ^2 goodness-of-fit value = 66.10, the ratio of the χ^2 goodness-of-fit to its degrees of freedom was 1.88, NNFI = .88, CFI = .92, and RMSEA = .08.

Table1 Structural equation model for organizational dynamics model

	χ^2 value	χ^2 /df	NNFI	CFI	RMSEA
Taiwan	66.10*	1.88	0.88	0.92	0.08
Korea	40.56ns	1.16	0.93	0.95	0.06

Note. * $p < 0.05$

Factorial invariance of the organizational dynamics model

SEM analysis of the model fit for the Korean members of the Olympic Organizations. The results of the SEM analysis revealed that the organizational dynamics model provided a reasonable model fit of the Korean members in the Olympic Organizations which the fit statistics were reported as followed: χ^2

goodness-of-fit value = 40.56, the ratio of the χ^2 goodness-of-fit to its degrees of freedom was 1.16, NNFI = .93, CFI = .95, and RMSEA = .06. Consequently, the modified organizational dynamics model was an acceptable fit for the Korean and Taiwan members in their Olympic Organizations ($\chi^2 = 52.53$, $p = .07$).

However, the factor loadings were not equivalent across two countries ($\Delta \chi^2 = 37.96$, $p < .05$) and no further invariance tests were conducted. This result suggested that the relationships among the observed variables might be operating in a different way for the Korean and Taiwan members in the Olympic Organizations. The Table 3 shows the comparison model fit indices between the Korean and Taiwan organizational dynamics model of the employees in the Olympic Organizations in Korea and Taiwan.

Table2 *Factorial invariance of the organizational dynamics model*

	χ^2 value	χ^2 /df	NNFI	CFI	RMSEA
Mfrom	52.53ns	1.35	0.85	0.90	0.09
Mloadings	90.49*	2.48	0.62	0.73	0.13

Discussion

The present study demonstrated the use of SEM to test a measurement model for the organizational dynamics of the employees of the Olympic organizations in Korea and Taiwan. The findings supported the previous studies (Doherty, 1998) on organizational outcomes (job satisfaction, organizational commitment, turnover intention, and organizational effectiveness). Chelladurai (1999) mentioned that the consequences of organizational dynamics include job satisfaction, organizational effectiveness, job performance, and withdrawal behaviors. Chelladurai also suggested that organizational commitment takes time to develop, and job satisfaction is often an immediate reaction to the job which may occur because the member is exposed to the job on a daily basis and because the exposure to processes and practices of the organization to achieve its goals and tasks affect the member.

The major focus of the organizational dynamics literature has been to identify antecedents of organizational outcomes from a variety of categories (e.g., CRobbins, 1998; Slack, 1997; Steers & Mowday, 1981). These categories have included personal characteristics, work experiences, organizational factors, leadership styles, and role-related factors. The primary mechanism through which these factors have been assumed to influence organizational outcomes is an exchange and dynamic process.

In conjunction with the findings of the organizational dynamics model for the employees in the Olympic organizations in Taiwan and Korea, role ambiguity and role conflict have negative influences to job satisfaction and organizational commitment directly.

The results of SEM revealed that the measurement model of organizational dynamics provided a reasonable model fit of the employees in Olympic organizations in Korea and Taiwan. However, the factor loadings are not equivalent across Korean and Taiwan employees. In other words, the organizational dynamics model was unequally valid for the current samples of Korean and Taiwan employees in the Olympic organizations.

Implementation

A measurement model for managing nonprofit sport organizations was proposed as framework for the review of OB research in sport, and to discussion of past and future research efforts in the area. Moreover, the research and practical implication of the findings and discussions are important, and there are several implementations of the present study. First, this study suggests that NPSOs can realize the relationships among the variables of organizational dynamics if an appropriate basis of the model is established. Second, organizational dynamics are not only concerned with the factors that influence communication and interaction between members, but are also

concerned with other forces in the physical, social, and cultural environments that influence these patterns and interaction (Mullins, 1999). Finally, this study will be important for the leaders of the NPSOs to understand the notions on organizational outcomes (job satisfaction, organizational commitment, turnover intention, and organizational effectiveness), and organizational culture preference determine which are important to the organizations, and incorporate these criteria into a NPSO assessment.

Limitations

Naturally, any study is limited by necessity in order to maintain manageability. There are several limitations of the present study. First, the decision to limit the population models to the organizational dynamics models will restrict generalizability of results to models of the Olympic organizations in Taiwan and Korea. Second, the sample size is not large enough for investigating the measurement and structural properties of organizational dynamics, particularly with the LISREL program. Jackson (2001) recommended larger samples when there were large numbers of observed variables to be estimated. The limited sample size may have affected the reliability and validity of the statistical methods used and the results. Finally, the results of the current study should be taken as strong evidence in support of the interpretation process as a mechanism that links organizational outcomes. For

example, the variable of members' turnover intention was used to estimate actual turnover of members. However, turnover studies differentiate between actual turnover and intention to leave an organization. When a member has intention to leave an organization, it does not mean that the member would leave the organization later on.

References

- Boomsma, A. (1987). The robustness of maximum likelihood estimation in structural equation models. In P. Cattance & R. Ecob (Eds.), *Structural equation modeling by example* (pp. 160–188). Cambridge, England: Cambridge University Press.
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.
- Bycio, P., Hackett, R. D., & Allen, J. S. (1995). Further assessments of Bass's (1985) conceptualization of transactional and transformational leadership. *Journal of Applied Psychology*, 80(4), 468-478.
- Byrne, B.M. (1998). *Structural Equation Modeling with LISREL, PRELIS, and SIMPLIS: Basic concepts, applications, and programming*, Erlbaum, Mahwah, NJ.
- Bracken BA & Barona A (1991) State of the art procedures for translating, validating and using psychoeducational tests in cross-cultural assessment. *School Psychology International* **12**, 119–132.
- Chelladurai, P. (1999). *Human Resource Management in Sport and Recreation*, Human Kinetics, Champaign, IL.
- Cameron, K. S. (1986). Effectiveness as a paradox: Consensus and conflict in

- conceptions of organizational effectiveness. *Management Science*, 32, 539-553.
- Chelladurai, P., & Haggerty, T. R. (1991). Measures of organizational effectiveness in Canadian national sport organizations. *Canadian Journal of Sport Science*, 16, 126-133.
- Doherty, A. J. (1998). Managing Our Human Resources: A Review of Organisational Behaviour in Sport. *Sport Management Review*, 1, 1-24.
- Gubrium, J. and Holstein, J. (2002) From the individual interview to the interview society. In Gubrium, J. and Holstein, J. (eds). *Handbook of Interview Research: Context and Method*. Thousand Oaks: Sage.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance. *Structural Equation Modeling*, 6(1), 1-55.
- Johnston, Mark W., Parasuraman, A., Futrell, Charles M., & Black, William C. (1990) .A Longitudinal Assessment of the Impact of Selected Organizational Influences on Salespeople's Organizational Commitment During Early Employment. *Journal of Marketing Research*, 27, 333-344.
- Jöreskog, K. G., Sörbom, D. (1993). *LISREL 8: Structural equation modeling with the SIMPLIS command language*. Chicago, IL: Scientific Software International.
- Mullins, L. (1999) *Hospitality Management and Organizational Behaviour*(4 th ed.).

FT/Prentice Hall.

Mowday, R. T., Porter, L. W. and R. M. Steer(1982), *Employee-Organization*

Linkages, NY: Academic Press.

Robbins, S. (1998). *Organisation theory in Australia (3rd ed.)*. Sydney, Australia:

Prentice Hall.

Rizzo, J.R., House, R.J. and Lirtzman, S.I., (1970). Role conflict and ambiguity in

complex organizations. *Administrative Science Quarterly*, 15, 150–163.

Simon, H. A. (1997). *Models of bounded rationality: Empirically grounded economic*

reason. Cambridge, MA: MIT Press.

Slack, T. (1997). *Understanding sport organizations: The application of organization*

theory. Champaign, IL: Human Kinetics.

Van de Vijver, F. J. R., & Poortinga, Y. H. (1997). Towards an integrated analysis of

bias in cross-cultural assessment. *European Journal of Psychological*

Assessment, 13, 29-37.

Wood, V.R., Chonko, L. B., & Hunt, S. (1986). Social Responsibility and

Personal Success: Are they Incompatible?. *Journal of Business Research*, 14,

193-212

Multiple Groups Confirmatory Factor Analysis of Exploratory Consumer Buying Behavior in Athletic Footwear Inventory

Li-Wen Hsieh

National Taipei University

Yang Shih-Chieh

Yung Chiao Investment Corporation

Mei-Yen Chen*

National Taiwan Sport University

I-wu Tung

Tungnan University

*Corresponding author: Mei-Yen Chen

Department of Recreation and Leisure Industry Management, National Taiwan Sport University, Taiwan. 250, Wen Hua 1st Rd, Kueishan, Taoyuan County, Taiwan, Republic of China

Abstract

The purpose of this study was to independently test the measurement model assumed to underlie the exploratory buying behavior tendency (EBBT) for athletic footwear across female and male high school students in Taiwan. The concept of seeking evidence in multiple groups' invariance entails examining measurement invariance and structural invariance (Byrne et al., 1989). In fact, invariance testing is similar to cross-validation in which parameter estimates, such as factor loadings, regression coefficients, etc. obtained from one group are literally forced onto the data for the other group. The use of linear structure relationships to test the invariance of the measurement across multiple groups has barely been considered in the area of sport marketing. The total participants of this study consisted of 398 high school students in Taiwan (159 female and 236 male; mean age = 16.39 years, $SD = .83$).

Based on the results of confirmatory factor analysis (CFA), the two-factor model does fit the female and male high school students in Taiwan. However, the factor loadings are not equivalent across the two groups. This suggests that the items might be operating in a different way for male and female high school students in Taiwan. Consequently, future studies using the EBBT for athletic products should first confirm its factor structure on the specific sample employed before proceeding to test major research hypotheses.

Key words: confirmatory factor analysis (CFA), exploratory consumer behavior, equivalence across gender

Introduction

Consumer decision-making is a field of knowledge that explains and predicts how consumers buy. Over the years, researchers and specialists have produced many studies and theories regarding human choice behavior, and research has indicated that perceptions of risk can be extended beyond the product to the shopping (Engel et al., 1995). Some studies have found that the greater degree of perceived risk in pre-purchase alternative evaluation, the greater the consumer propensity to seek information about the product (Engel et al., 1995; Pope et al., 1999).

Holbrook and Hirschman (1982) suggested that the understanding of environmental and consumer inputs is necessary to understand the consumer information processing system. Environmental inputs include factors of the nature of the products, stimulus properties, and communication content. On the other hand, consumer inputs include factors such as money and time resources, information seeking, exploratory behavior, and individual differences. The purpose of information seeking is to solve consumption problems in order to make better purchase decisions (Bloch, Sherrell, & Ridgway, 1986). In addition, Murray (1991) pointed out that information from individuals with previous product experience is subjective and evaluative which logically reduces the prospective consumer's uncertainty by means of vicarious learning and approximates direct experience with the product.

Exploring Information Processing

Exploring information processing refers to the process by which a stimulus is received, interpreted, stored in memory, and later retrieved (Engel et al., 1995). According to McGuire's model (1976), the information processing for a consumer consists of five basic stages. First, exposure can be defined as the achievement of proximity to a stimulus such that an opportunity exists for one or more of a person's

senses to be activated. Second, attention represents the allocation of processing capacity to the incoming stimulus. Third, comprehension is concerned with the interpretation of the stimulus. It is influenced by several factors, such as a consumer's level of knowledge, motivation, involvement, or her/his expectation. Fourth, the acceptance stage of the information processing focuses on the persuasive impact of the stimulus. Finally, retention involves the transfer of the stimulus interpretation and persuasiveness into a long-term memory.

The optimal stimulation level (OSL) is viewed as a uniquely determined, homeostatic degree of stimulation with which a consumer is comfortable. If the environment is deficient at providing this level of stimulation, the consumer will tend to seek complexity or novelty. If the environment provides more stimulation than the desired optimal level, the consumer will engage in behavior to reduce stimulation (Raju, 1980; Wahlers & Etzel, 1990). Consequently, OSL is considered to be predictive of a wide range of consumer-related behavior.

Exploratory Buying Tendency as a Factor of Athletic Information Seeking

Sports product purchasing is a hundred billion dollar business, and it was ranked as the 11th largest industry in the US (Li et al., 2001). The athletic footwear market is one of the largest parts of the sports product business (Pitts et al., 1994). Sports Business Market Research (SBMR) showed that teenagers aged 14 to 17 years contribute at least 8.4% of the total purchasing in athletic footwear in the US every year (Miller, 1997). Based on the financial reports of Nike, Reebok, and Adidas companies, the income of athletic footwear accounted for 40% to 70% of the total sports product sales revenues from 2000 to 2001 (Nike, Reebok, & Adidas Websites, 2002). Furthermore, athletic footwear sale was ranked the third largest market in Asia (Pitts et al., 1994). For example, 16.6% of Nike's total athletic footwear revenues were from Asian countries in 2000.

Baumgartner and Steenkamp (1996) provided a two-factor conceptualization of exploratory consumer buying behavior in which exploratory acquisition of athletic footwear is distinguished from exploratory information seeking. Their model of the exploratory buying behavior tendency (EBBT) was based on the optimal stimulation level (OSL) theory which verified two dimensions: exploratory acquisition of products (EAP) and exploratory information seeking (EIS). Exploratory acquisition of products (EAP) entails the potential for sensory stimulation in product purchases through risky and innovative product choices and varied and changing purchase experiences, while exploratory information seeking (EIS) satisfies the consumers' cognitive stimulation needs through the acquisition of consumption-relevant knowledge out of curiosity.

Moreover, EAP and EIS were found to be related but distinct facets of exploratory buying behavior, and the scale exhibited unidimensionality within each subscale as well as convergent and discriminant validity. Baumgartner and Steenkamp (1996) concluded that EAP has stronger associations with sensory stimulation seeking as indicated by a willingness to take risks, inherent innovativeness, and tolerance for ambiguity. On the other hand, EIS is more strongly related to cognitive forms of stimulation seeking as indicated by a general measure of curiosity as well as need for cognition. Figure 1 shows the EBBT model of Baumgartner and Steenkamp (1996).

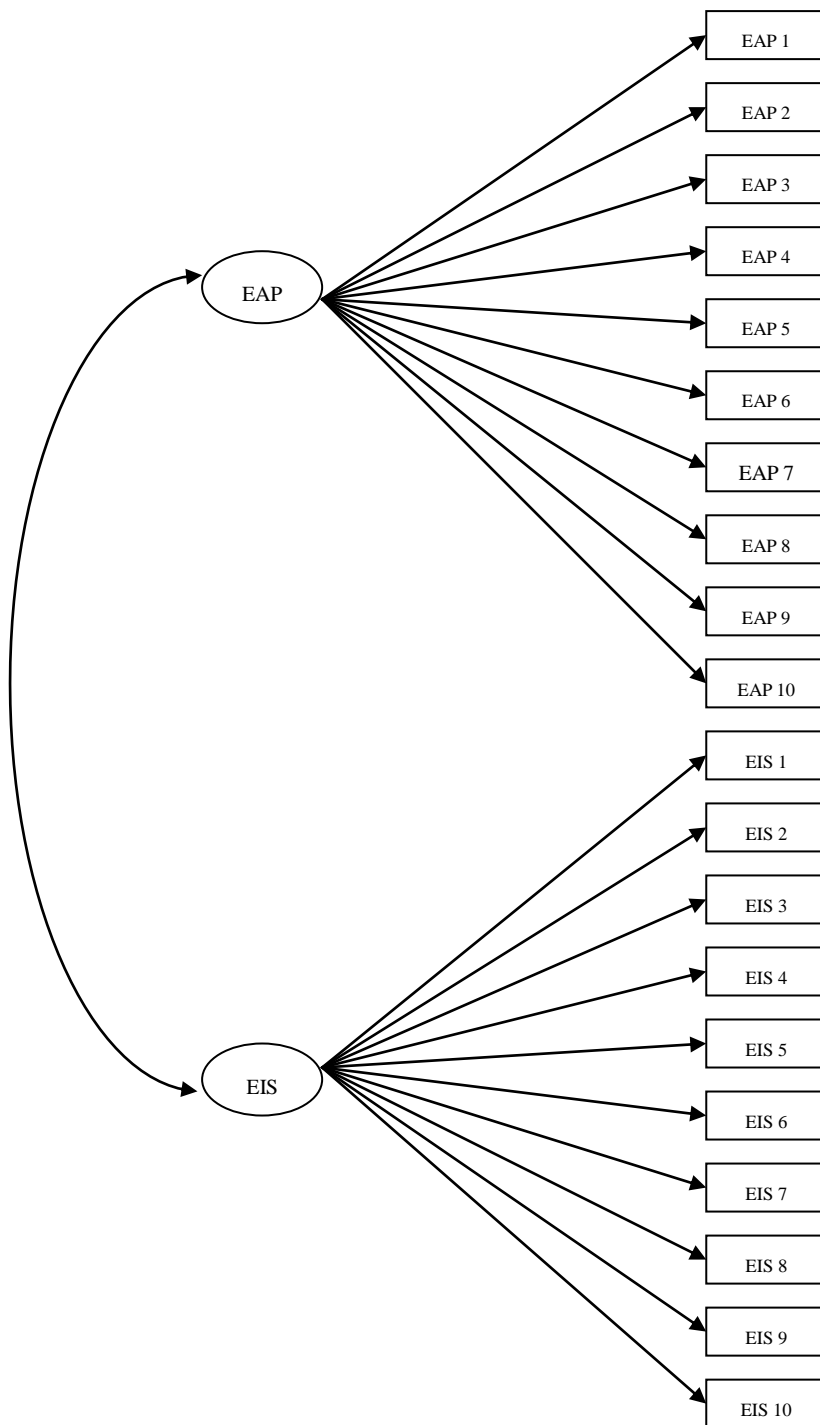


Figure 1 Conceptual Exploratory Buying Behavior Tendency (EBBT) Model

From "Exploratory consumer buying behavior: Conceptualization and measurement," by H. Baumgartner, and, J.-B.E.M. Steenkamp, 1996, *International Journal of Research in Marketing*, 13, p. 127.

Invariance Testing for Multiple Groups

The concept of seeking evidence in multiple groups' invariance entails examining measurement invariance and structural invariance (Byrne et al., 1989). According to Byrne's (1998) suggestions, there are five considerations to test for multiple groups' invariance. First, the consideration of the measurement model is group-invariant. Second, the consideration of the factorial structure of a single instrument is equivalent across groups. Third, the consideration of the paths in a specified causal structure is invariant across groups. Fourth, the consideration of the latent means of particular constructs in a model is equivalent across groups. Finally, the consideration of the factorial structure of a measuring instrument replicates across independent samples of the same group.

In fact, invariance testing is similar to cross-validation in which parameter estimates, such as factor loadings, regression coefficients, etc. obtained from one group are literally forced onto the data for the other group. If the two groups are basically similar, then this imposition of parameter estimates from one group will "fit" the data of the second group. In the invariance testing, model fit is assessed in terms of the ability of these parameter estimates from one group to reproduce the correlations of the other group.

Research Purpose of the Study

According to some studies (Gill, 2000; Hsieh, 1999; Weinberg & Gould, 1995), male high school students' attitudes toward sport activities are higher than female students' attitudes, and male students are more involved in exercise than female students; but there are not many significant studies concerning gender difference for athletic product information seeking behavior. However, Engel et al. (1995) pointed out

that gender is an important segmentation variable in the consumer behavior and the business marketing strategies.

The purpose of this study was to independently test the measurement model assumed to underlie the exploratory buying behavior tendency (EBBT) for athletic footwear among female and male high school students in Taiwan.

Implication of the Study

Understanding the equivalence of the EBBT model across gender can help sport manufacturers plan advertisement strategies when introducing new products to consumers. In addition, this study can help the design of future research in the consumer's athletic information seeking. Furthermore, Mullin et al. (2000) also mentioned that the information sources of consumer decision-making are a process rather than a prescriptive formula, and it is the construction of a blueprint that is capable of determining behavior. Therefore, it is necessary to examine the invariance of information seeking for athletic pre-purchase decisions between females and males.

Methodology

Participants

Teenagers in Taiwan were the target population, and high school students in Taiwan were the accessible population for this study. According to Engel et al. (1995), teenagers have created a growing market for sports products and services, such as clothing, footwear, and game tickets. Also, sports marketers are now directing advertising to teenagers to focus on this specific consumer group. The total participants of this study consisted of 398 high school students in Taiwan (159 female and 236 male; mean age = 16.39 years, $SD = .83$). Boomsma (1982) suggested that in order to lower the risk of drawing the wrong conclusions, the sample size for a two-factor model in

confirmatory factor analysis should be at least 200. Based on Boomsma's guidelines, the sample size of the current study was acceptable.

The participants' average frequency to do exercise or physical activities every week was none (15.8%), once (24.4%), twice (28.9%), three times (13.3%), four times (6.0%) five times (4.3%), six times (1.3%), and seven times or above (5.3%); the average time to do exercise or physical activities every week was less than 15 minutes (22.6%), 15-30 minutes (38.2%), 30-60 minutes (19.6%), 1-2 hours (10.8%), and more than 2 hours (4%). The average spending money every month except for the money for food of the participants was less than \$50 (35.2%), \$50-99 (29.6%), \$100-149 (22.9%), \$150-199 (8.8%), and \$200 or above (1.0%). Moreover, the mean pair of athletic footwear that the participants currently owned was 2 pairs ($SD = 1.2$ pairs), with famous brands 79.4%, and a generic brand 20.6%.

Instrumentation

Exploratory buying behavior tendency (EBBT). The 20-item Exploratory Buying Behavior Tendency (EBBT) inventory that was developed by Baumgartner and Steenkamp (1996) was translated into the Chinese version. The EBBT scale includes two dimensions: (a) the exploratory acquisition of products dimension (EAP), and (b) the exploratory information seeking dimension (EIS). Both dimensions are composed of 10 items with each item rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The item responses were summed within each dimension to create overall EAP and EIS scores.

According to Baumgartner and Steenkamp (1996), EAP reflects the tendency to seek sensory stimulation in athletic footwear pre-purchase through risky and innovative product choices, varied and changing purchases, and consumption experiences. A high EAP score means that individuals enjoy unfamiliar and innovative products and seek variety in their purchases. On the other hand, EIS reflects the tendency to obtain cognitive stimulation

through the acquisition of consumption-relevant knowledge out of curiosity. A high EIS score means that individuals like to go browsing and window-shopping, and they are interested in talking with other consumers about their consumption experiences. Below are two items used to assess an individual's EAP and EIS.

EAP: Even though certain different brands of footwear are available, I tend to buy the same brand.

EIS: I often read advertisements for footwear just out of curiosity.

For the original inventory, the estimates of internal consistency based on Cronbach's alpha for the EAP and EIS are .75 and .84. Moreover, confirmatory factor analyses provided evidence that the two-factor EAP-EIS structure showed an adequate fit to the data (Baumgartner & Steenkamp, 1996). Moreover, the internal consistency reliability of the item estimates by Cronbach's alphas for the current participants were .83 for the EAS and .80 for the EIS.

Demographics. A demographic questionnaire was developed for this study to obtain information concerning gender, age, average frequency and time to do exercise or physical activities every week, average spending money for a month, and specific brand preference in athletic footwear.

Procedures

In Taiwan, physical education classes are necessary for every high school student. We contacted our participants from their physical education classes and informed them about the general purpose of the study, and consent forms in Chinese were signed. Afterwards, the participants completed the exploratory buying behavior tendency (EBBT) inventory and the demographic questionnaires in their physical education classes.

Data Analysis

For this study, we used confirmatory factor analysis (CFA) to conduct the test of

equivalence of the exploratory buying behavior tendency (EBBT) for athletic footwear among female and male high school students in Taiwan. Since CFA is based on the assumptions that the observed items are multivariate normally distributed, the PRELIS program was used to detect the multivariate normality of the items in each group. Consequently, the skewness and kurtosis of each item was examined for the female and male high school students. In this study, the data supported the assumed distribution of multivariate normality.

In order to conduct the multiple groups CFA for the female and male high school students, a series of maximum likelihood CFAs were used in the analysis of data. These CFAs were based on the LISREL 8 statistical program (Jöreskog & Sörbom, 1993) and included two stages: (a) the establishment and evaluation of a baseline model by conducting single-group CFAs for each group; (b) the testing of invariance of the EBBT measurements and structures for the female and male high school students.

Furthermore, the major consideration in conducting the equivalence of structural covariance modeling was the issue of what indexes should be used to assess the overall model fit. Based on the recommendations of Hu and Bentler (1999), we used several measures of fit. First, the chi-squared (χ^2) goodness-of-fit statistic measures the difference between the sample covariance matrix and the covariance matrix based on the model. Large or statistically significant values of the χ^2 indicate a poorly fitting model. Second, the cutoff values of .95 and above should be used to support adequate fit based on the non-normed fit index (NNFI) and comparative fit index (CFI). Third, the cutoff value of .06 and less should be used for the root mean squared error of approximation (RMSEA). Fourth, in terms of using combinations of fit indices, Hu and Bentler recommended a cutoff value of close to .95 for the NNFI and CFI in conjunction with a cutoff value of .09 (or less) for the standardized root mean squared residual. Finally, when looking at combinations of the RMSEA and standardized root mean squared residuals, it is suggested using RMSEA

values < .05 (or .06) in conjunction with standardized root mean squared residuals of .06 and lower.

Tests of invariance of factor structures for the female and male high school students involved (a) testing for the equality of the covariance structure of the observed variables; (b) testing the invariance of the two-factor pattern; (c) testing the invariance of the factor pattern and factor loadings; (d) testing the invariance of the factor pattern, factor loadings, factor loadings, and error terms; and (e) testing the invariance of the factor pattern, factor loadings, error terms, and covariance structure of latent variables.

Results

Establishing a Baseline Model

According to Baumgartner and Steenkamp (1996), EAP and EIS were assumed to be dependent. Therefore, the EBBT model was tested for correlated factors. Multiple covariance among error variances within the same factor often represent nonrandom measurement error due to a “testing effect” (Byrne et al., 1989). If the item reliability is low or measurement error is high, that would lead to a poor model fit. Moreover, Byrne (1998) suggested a procedure focused on examining the modification index (MI). The purpose of modification is to revise the model to improve fit, generally by adding paths that are not included in the original model. In this study, we used the modification index (MI) to determine which path will be added. Specifically, the MI indicated the reduction in the χ^2 associated with adding a particular path to the model. Also, we examined the MI for a covariance matrix to figure out the similar items.

Based on the criteria for acceptable fit indexes, we combined three pairs of highly correlated items and allowed some items to double-load on the two factors to improve the fit of the baseline model. First, we combined EAP1 and EAP2, EAP5 and EAP6, and

EIS12 and EIS18. Second, we added paths from EAP factor to EIS1 and EIS 7, and from EIS factor to EAP3 and EAP7 to decrease χ^2 values. Finally, we added paths between EAP1&2 and EAP 3, and between EAP7 and EAP9 to improve the model's fit. The revised baseline model was shown in Figure 2. According to the LISREL 8 results of the revised baseline model, the Chi-squared (χ^2) goodness-of-fit was 108.79, $p < .05$ (χ^2 for the original model was 826.35, $p < .05$); non-normed fit index (NNFI) was .93; comparative fit index (CFI) was .95; and root mean squared error of approximation (RMSEA) was .056. Based on the four indexes of assessing fit, the revised EBBT baseline model fit the data. In other words, this model appears to adequately account for the relationships among these variables.

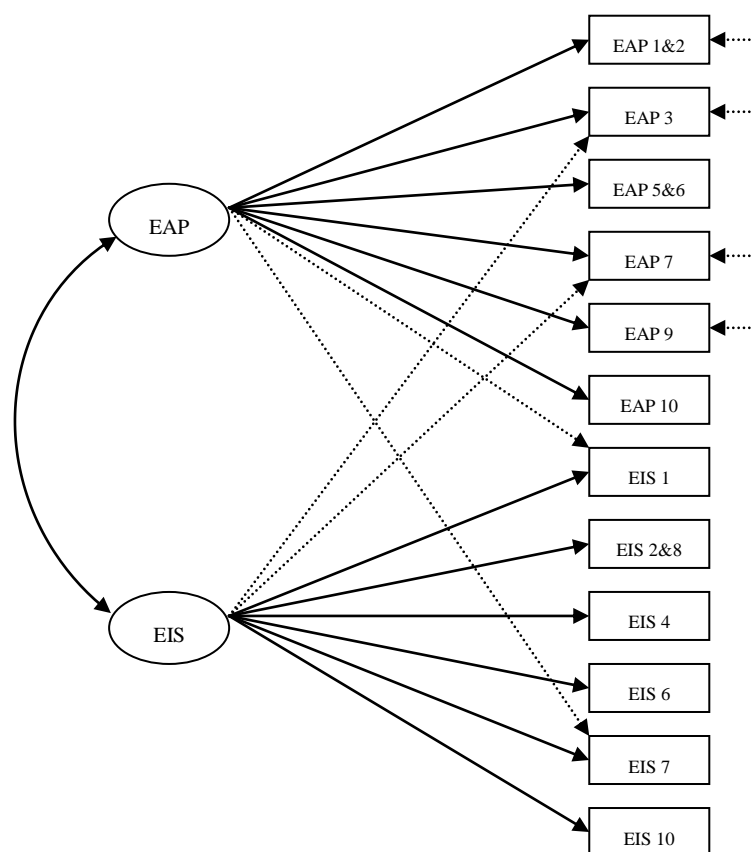


Figure 2 Revised Exploratory Buying Behavior Tendency (EBBT) Baseline Model

Note: Dotted lines represent the added paths after modifying baseline model.

Multiple Groups CFA

Multiple-group confirmatory factor analysis (CFA) was used to determine the equivalence of the exploratory buying behavior tendency (EBBT) for athletic footwear for female and male high school students in Taiwan. First, the two-factor model seems to fit the female and male high school students ($\chi^2 = 147.93$, $p < .05$; RMSEA = .048; CFI = .96; and NNFI = .94). In other words, the two-factor model is adequate for the two groups. After constraining the matrix of factor loadings to be equal for the two groups, the significant reduction in fit indicated, the factor loadings are not equivalent across the two groups ($\Delta \chi^2 = 29.57$, $p < .05$). Consequently, no further invariance tests were conducted. Results from the two group model tests were summarized in Table 1.

Table 1 Multiple Groups Confirmatory Factor Analysis Across Gender (N = 398)

Invariant	χ^2	df	$\Delta \chi^2$	Δ df	RMSEA	CFI	NNFI
Two-factor Model	147.93	94	—	—	.048	.96	.94
Factor Loading	177.50	108	29.57*	14	.054	.95	.93

Note. RMSEA = root mean squared error of approximation; CFI = comparative fit index; NNFI = non-normed fit index. * $p < .05$.

Then, factor loadings of male and female students in the EBBT model were examined separately for unequal factor loadings results. For the item EAP 1&2 about brand loyalty or tendency of using other brands, there was a salient different factor loading between male (.71) and female (.46). Also, a noticeable difference in factor loadings between males (.47) and females (.67) was found in the item EIS 7 about the tendency of throwing away mail advertisements without reading them.

The major reason for the lack of loading invariance by gender was strongly

reflected in the item EAP 7 which is, “I am very cautious in purchasing new or different brands of sports footwear.” During the procedure of modification for the baseline model, the item EAP 7 was free and showed significant loading ($t = 2.86$, and $t = 4.36$) on both factors. However, when comparing the factor loading by gender, the results showed that for males this item had only a significant factor loading on EIS. However, for females the same item had only a significant factor loading on EAP. Results for male and female factor loadings are summarized in Table 2.

Table 2 Factor Loading of Exploratory Buying Behavior Tendency Questionnaire Items for the Two-Factor Model for Male and Female High School Students

Item	EAP		EIS	
	Male	Female	Male	Female
EAP 1&2	.71	.46		
EAP 3	.52	.52	-.34	-.17
EAP 5&6	.64	.55		
EAP 7	.02 ^a	.41	-.42	-.09 ^a
EAP 9	.56	.50		
EAP 10	.76	.84		
EIS 1	.37	.37	.69	.79
EIS 2&8			.80	.70
EIS 4			.89	.71
EIS 6			.84	.85
EIS 7	.30	.34	.47	.67
EIS 10			.56	.66

^a Not statistically significant at the .05 level

Discussion

The purpose of this study was to independently test the measurement model assumed to underlie the exploratory buying behavior tendency (EBBT) for athletic footwear by female and male high school students in Taiwan. The use of linear structure relationships to test the invariance of the measurement across multiple groups has barely been considered in the area of sport marketing. Based on the results of the CFA, the two-factor model does fit the female and male high school students. However, the factor loadings are not equivalent across the two groups. In other words, the 16-item EBBT for athletic footwear is unequally valid for the current samples of female and male high school students. This suggests that the items might be operating in a different way for male and female high school students in Taiwan.

Buttle (1992) pointed out that purchasing is a scene in which gender-role orientations are enacted. Females and males have different pre-purchase behavior, level of purchasing involvement, and information processing strategies in different products. Because females and males often occupy different social roles, they are subjected to different social perspectives. Thus, females and males employ significantly different information processing strategies (Darley & Smith, 1995).

Consequently, future studies using the EBBT for athletic products should first confirm its factor structure for the specific samples employed before proceeding to test major research hypotheses. Furthermore, identifying the sources of variability from different groups in response to this exploratory buying behavior tendency measure should lead to further sport product information seeking research. Finally, it is recommended that multiple groups confirmatory factor analysis (CFA) be conducted to examine or establish a sport marketing and consumer behavior assessment.

References

- Baumgartner, H., & Steenkamp, J.-B.E.M. (1996). Exploratory consumer buying behavior: Conceptualization and measurement. *International Journal of Research in Marketing*, 13, 121-137.
- Bloch, P. H., Sherrell, D. L., & Ridgway, N. M. (1986). Consumer search: An extended framework. *Journal of Consumer Research*, 13, 119-126.
- Boomsma, A. (1987). The robustness of LISREL against small sample sizes in factor analysis models. In K. G. Jöreskog & H. Wold (Eds.), *Systems Under Indirect Observation: Causality, Structure, Prediction* (Part 1, 149-173). New York: Elsevier Science Publishers.
- Buttle, F. (1992). Shopping motives constructionist perspective. *Services Industries Journal*, 12, 349-367.
- Byrne, B. M., Shavelson, R. J., & Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: The issue of partial measurement invariance. *Psychological Bulletin*, 105(3), 456-466.
- Byrne, B. M. (1998). *Structural equation modeling with LISREL, PRELIS, and SIMPLIS: Basic concepts, applications, and programming*. Hillsdale, NJ: Lawrence Erlbaum Associates Inc., Publishers.
- Darley, W. K., & Smith, R. E. (1995). Gender differences in information processing strategies: An empirical test of the selectivity model in advertising response. *Journal of Advertising*, 24(1), 41-56.
- Engel, J. F., Blackwell, R. D., & Miniard, P. W. (1995). *Consumer behavior* (8 th ed.). Orlando, FL: The Dryden Press.
- Gill, D. L. (2000). *Psychological dynamics of sport and exercise* (2 nd ed.). Champaign, IL: Human Kinetics.

- Holbrook M. B. & Hirschman, E. C. (1982). The experiential aspects of consumption: Consumer fantasies, feelings, and fun. *Journal of Consumer Research*, 9, 132-140.
- Hsieh, L. (1999). *Attitudes toward Physical Education Activity among Senior High School Students in Taiwan*. Poster session presented at the University of Northern Colorado Research Day, Greeley, CO.
- Hu, L-t, & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55.
- Joachimsthaler, E. A. & Lastovicka, J. L. (1984). Optimal stimulation level: Exploratory behavior models. *Journal of Consumer Research*, 11, 830-835.
- Jöreskog, K. G., & Sörbom, D. (1993). LISREL 8: Structural equation modeling with the SIMPLIS command and language. Chicago: Scientific Software International.
- Li, M., Hofacre, S., & Mahony, D. (2001). *Economics of sport*. Morgantown, WV: Fitness Information Technology, Inc.
- McGuire, W. J. (1976). Some internal psychological factors influencing consumer choice. *Journal of Consumer Research*, 2, 302-319.
- Miller, L. K. (1997). *Sport business management*. Gaithersburg, MD: Aspen Publishers, Inc.
- Mittelstaedt, R. A., Grossbart, S. L., & Devere, S. P. (1976). Optimum stimulation level and the adoption decision process. *Journal of Consumer Research*, 3, 84-94.
- Mullin, B. J., Hardy, S., & Sutton, W. A. (2000). *Sport marketing*. Champaign, IL: Human Kinetics.
- Murray, K. B. (1991). A test of services marketing theory: Consumer information acquisition activities. *Journal of Marketing*, 55, 10-25.
- Pitts, B., Fielding, L., & Miller, L. (1994). Industry segmentation and the sport industry:

- developing a sport industry segment model. *Sport Marketing Quarterly*, 3(1), 15-24.
- Pope, N., Brown, M., & Forrest, E. (1999). Risk, innovativeness, gender, and involvement factors affecting the intention to purchase sport product online. *Sport Marketing Quarterly*, 8(2), 25-34.
- Raju, P. S. (1980). Optimum stimulation level: Its relationship to personality, demographics, and exploratory behavior. *Journal of Consumer Research*, 7, 272-282.
- Steenkamp, J. E. M. & Baumgartner, H. (1992). The role of optimum stimulation level in exploratory consumer behavior. *Journal of Consumer Research*, 19, 434-448.
- Wahlers, R. G. & Etzel, M. J. (1990). A structural examination of two optimal stimulation level measurement models. *Advances in Consumer Research*. Provo, UT: Association for Consumer Research.
- Weinberg, R. S., & Gould, D. (1995). *Foundations of sport and exercise psychology*. Champaign, IL: Human Kinetics.

Appendix

No	Items	M	SD
1.	Even though certain different brands of sports footwear are available, I tend to buy the same brand.	3.04	.99
2.	I tend to stick with a brand of sports footwear I usually wear and will not try other unfamiliar brands.	3.44	.98
3.	I think of myself as a brand-loyal consumer for sports footwear.	3.41	1.08
5.	When I go to a sport equipment store, I feel it is safer to purchase the brand of sports footwear I am familiar.	2.59	.96
6.	If I like a brand, I rarely switch from it to try different brands of sports footwear.	2.77	1.02
7.	I am very cautious in purchasing new or different sports footwear.	2.26	.95
9.	I rarely buy some brands of sports footwear which I am uncertain how well they perform.	2.66	.99
10.	I usually wear the same brand of sports footwear.	3.04	1.05
11.	I feel that reading advertising or information about sports footwear is a waste of time.	3.23	1.19
12.	I like to go to sport equipment store to find out the latest styles of sports footwear.	3.11	1.17
14.	I often pay attention to advertisements of sports footwear.	3.25	1.05
16.	I like to browse through mail order catalogs for sports footwear even when I don't plan to buy any sports footwear.	3.37	1.16
17.	I usually throw away mail advertisements without reading them	3.25	1.08
18.	I like to shop around in sport equipment store and look at displays of sports footwear.	3.77	1.10
20.	I often read advertisements for sports footwear just out of curiosity.	2.77	1.07

Are LTPA and Coping Strategies Moderators of Stress, Job Satisfaction, and Wellness in Sport and Recreation Managers in Hong Kong?

Mei Du*

School of Sports Science and Engineering, East China University of Science and
Technology

Lynda Ransdell

Department of Kinesiology, Boise State University, 1910 University Drive, Boise,
Idaho, USA

Mee-lee Leung

Department of Physical Education, Hong Kong Baptist University, Kowloon Tong,
Hong Kong

Acknowledgement

The authors would like to acknowledge Prof. Lena Fung and Prof. Frank H. Fu,
Department of Physical Education, Hong Kong Baptist University for their kind
support and assistance in conducting this study.

*Corresponding author: Mei Du

School of Sports Science and Engineering, East China University of Science and
Technology, Xuhui District, Shanghai, 200237

Email: tydm@ecust.edu.cn

Are LTPA and Coping Strategies Moderators of Stress, Job Satisfaction, and Wellness in Sport and Recreation Managers in Hong Kong?

Abstract

With the hosting of the Beijing Olympics in 2008 and the East Asian games in 2009, the sport and recreation industry is growing in Hong Kong. To ensure that individuals who pursue careers in sport and recreation experience job satisfaction, wellness, and ultimately success, it is important to study this population more closely. Specifically, the purpose of this paper is to examine the following in sport and recreation managers in Hong Kong: (a) their personal characteristics including leisure time physical activity (LTPA), coping strategies, work stress, job satisfaction, and wellness, (b) the stress-strain relationship (i.e., the relationship between work stress and outcome factors including job satisfaction and wellness), and (c) the moderating effects of LTPA and coping on job satisfaction and wellness (e.g., emotional, intellectual, physical, psychological, social, and spiritual dimensions). Descriptive statistics were calculated to describe the personal characteristics and the stress-strain relationship in this sample. Hierarchical regressions were conducted to determine whether LTPA and coping strategies moderated job satisfaction and wellness in this sample. Sport and recreation managers in Hong Kong did not participate in sufficient leisure time physical activity as recommended by the physical activity guidelines for adults. Their work stress level was moderate ($Mean = 3.63, SD = 0.66$). They tended to employ certain control coping strategies ($Mean = 4.28, SD = 0.63$) and support

coping strategies ($Mean = 4.32, SD = 0.67$) to deal with stress. Their reported wellness mean scores, in order from highest to lowest, were: social wellness (4.23), spiritual wellness (4.20), physical wellness (4.11), psychological wellness (3.94), intellectual wellness (3.93), and emotional wellness (3.90). Stress appeared to have a negative influence on all dimensions of wellness except the physical dimension. Both types of coping, control and support, had significant direct effects on all dimensions of wellness. LTPA had a direct effect on physical wellness ($r = .20, p < .01$) and intellectual wellness ($r = .12, p < .05$). Support coping demonstrated a moderating effect on the relationships between work stress and spiritual wellness, and between stress and intellectual wellness. Both control and support coping demonstrated a direct effect on wellness. Recommendations for decreasing work stress and increasing LTPA, coping, job satisfaction and wellness are provided based on the findings.

Keywords: sport and recreation manager, LTPA, coping, stress, job satisfaction, wellness

Introduction

Sport development in Hong Kong had long be neglected, however, with the hosting of the Beijing Olympic equestrian games in 2008 and the East Asian games in 2009, the sport and recreation industry is growing in Hong Kong. The current legislative council is actively urging the government to put more resources into local sport development, including giving more support to elite training programs, strengthening physical education in schools, promoting sport for all in the society and building up the sport complexes in the Kai Tak Development Area (*Motion on "Promoting the sports development in Hong Kong"*, 2010). In December, 2009, the Hong Kong government also agreed to support its Olympic Committee to bid for the 2019 Asian Games (Olympic Council of Asia, 2009). There are many responsibilities related to running a large scale event such as the Olympics, East Asian games, or Asian games. Therefore, it is likely that sport and recreation managers will experience significant stress. As stress increases, job satisfaction and overall wellness are likely to decrease.

Stress has become a commonly acknowledged health hazard, so much so, that many countries collect work-stress related information on an annual basis to monitor the prevalence of the problem. For example, in the United Kingdom, according to the statistics released by its governmental department --- Health and Safety Executives (HSE)-- in the year 2008-2009, 415,000 out of a total working population of 28.92 million (Office for National Statistics, 2010) suffered from a stress related disease (Health and Safety Executives, 2010). About 16.7% of working individuals considered their job as very or extremely stressful. Stress-related diseases accounted for an estimated loss of 11.4 million working days annually. The cost of stress, anxiety and depression in England was over £530 million in the year 2005-2006.

Clearly, excessive stress affects the physical and mental health of workers world wide, and it presents a heavy financial burden on employers and the government. In Hong Kong, according to a survey report released by the Occupational Safety and Health Council (Occupational Safety and Health Council, 2002), 41.2% of the working population experienced high work stress--a rate much higher than that reported in UK.

Due to the negative impact of stress, it has received considerable attention from scholars in various research areas during the past forty years. Two of the strategies frequently purported to decrease stress include increasing physical activity and utilizing coping strategies. Physical activity may decrease stress because when the body perceives stress, whether it is a physical stressor (e.g., being chased by a wild animal) or a psychological stressor (e.g., feeling anxious about preparation for a big event), several physiological mechanisms are activated. Specifically, cortisol, a stress hormone, is secreted to enable the body to use glucose as fuel. The enhanced ability to use glucose as fuel can prolong the time that the body can withstand a physical stressor such as running away from danger. Additionally, catecholamines are secreted which enable the body to increase motivation, strength, and physical ability to deal with a stressor. If no exercise or physical activity is performed in response to a stressor — which is what happens with psychological stressors in the absence of physical activity — the stress hormones build up and cause negative reactions in the body which can ultimately lead to increased risk of disease (Ebrecht et al., 2004; Nabkasorn et al., 2006).

Some neurochemicals (e.g. endorphin and dopamine) are released during exercise that enhance mood. Certain types of exercise, such as yoga and stretching are helpful for reducing muscular tension caused by stress. Moreover, some recreational activities offer opportunities for social support which can be an effective buffer

against stress. Theoretically, participation in physical activity should help an individual more effectively cope with stress and those individuals who participate in more LTPA may report decreased stress.

A second strategy used to lower stress is known as coping theory. The origin of the coping concept dates back to the 1960s, which coincides with the burgeoning interest in stress (Lazarus, 1993). The development of the coping theories went through two major stages. First, coping was considered a trait or style. Later, coping was considered a process. Folkman and Lazarus (1980) described two main dimensions in the process of coping: problem-focused coping and emotion-focused coping. Problem-focused coping strategies involve efforts to solve a problem or change a difficult situation between a person and his/ her environment in an active way. Emotion-focused coping strategies, to the contrary, do not try to change the problem or situation directly, but they attempt to assign new meaning to the emotions that were aroused. Problem-focused coping was viewed as the more adaptive of the two since it tended to eliminate the source of stress rather than simply mitigating the negative effects of stress (Lazarus & Folkman, 1984).

A more recent group of researchers (Carver, Scheier, & Weintraub, 1989; Dewe, Cox, & Ferguson, 1993; Torkelson & Muhonen, 2004) argued that coping strategies should be categorized in terms of their functions. Specifically, they mentioned control coping and support coping as ways to deal with stress. Control coping is attempting to get things under one's control. Support coping involves seeking social support, which could be emotional support or understanding. Higher levels of control coping and support coping should result in lower levels of stress in sport and recreation managers.

Finally, with higher levels of LTPA and utilization of coping strategies, it is likely that stress levels will be lower. When stress levels are lower, several positive things may occur. Specifically, previous research has shown that job satisfaction is higher

when stress is lower (e.g., there is an inverse relationship between job satisfaction and stress) (Antoniou, Davidson, & Cooper, 2003; Jamal, 2005; Siu, Spector, Cooper, & Lu, 2005). Additionally, previous research has suggested that the physical and mental health states are rated higher when stress is lower (Jamal, 2005; Lu, Cooper, Kao, & Zhou, 2003).

To ensure that individuals who pursue careers in sport and recreation experience optimal job satisfaction, wellness, and ultimately success, it is important to study this population more closely. Specifically, there are no descriptive studies that explore the leisure time physical activity (LTPA) or coping skills, stress levels, job satisfaction, and wellness of sport and recreation managers in Hong Kong. Further, it is possible that higher levels of leisure time physical activity and greater coping skills may be related to lower levels of stress in this population, which could in turn improve job satisfaction and wellness.

Given the importance of studying the relationship between LTPA, coping, and stress, the subsequent relationship between stress, job satisfaction, and wellness, and the dearth of information about this topic in sport and recreation managers in Hong Kong, the present study is designed to examine: (a) the personal characteristics of Hong Kong managers including leisure time physical activity (LTPA), coping strategies, work stress, job satisfaction, and wellness, (b) the relationship between stress and work strain factors (job satisfaction and wellness), namely, the stress-strain relationship, and (c) the moderating effects of LTPA and coping on job satisfaction and the six dimensions of wellness (e.g., emotional, intellectual, physical psychological, social, and spiritual). The conceptual map of the proposed moderators is presented in Figure 1.

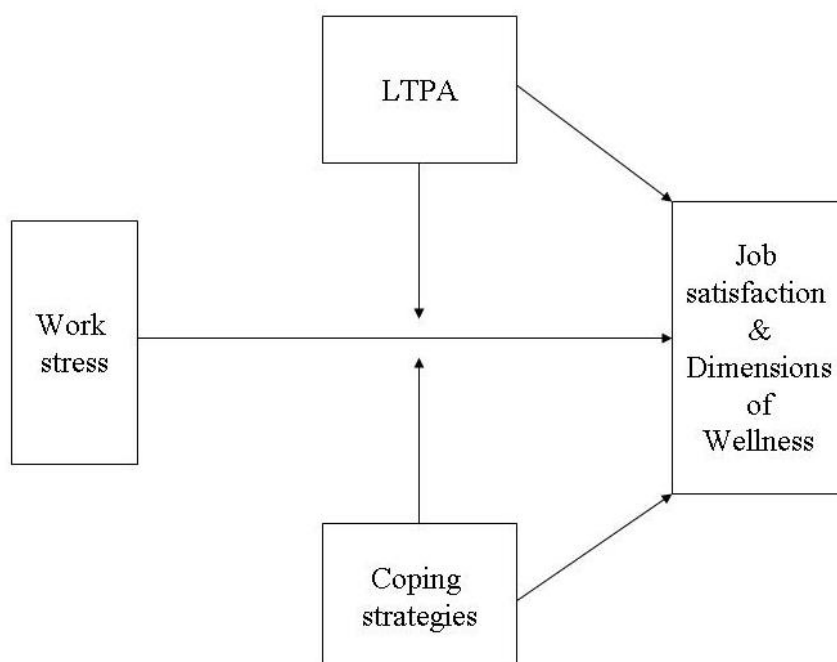


Figure 1. The moderating effects of LTPA and coping strategies on work stress, job satisfaction and dimensions of wellness.

Methods

Participants

The target population for this study was managers and administrators in various sectors of the sport and recreation industry in Hong Kong, including governmental civil servants, managers working in the private sector and in non-governmental organizations (NGO). In this study, NGO refers to the sport and recreation organizations independent from the government. The purpose of these NGO organizations is to promote certain sports or active lifestyles among the citizens rather than to make profits. Examples of NGO organizations include the national sport associations, YMCA, and YWCA.

Participants in the study held a variety of job titles. Therefore, individuals who participated in this study held titles like director, executive, manager, assistant manager, or officer.

A convenience sampling approach was used in the present study. Through all possible connections of the authors, 600 questionnaires were sent out. Response rate (57% or 343/600) was maximized by including a personal revisit or phone call about one week after the questionnaires were distributed.

Data check and cleaning were performed using SPSS descriptive analysis. Two extreme cases were identified in the Box plot and were excluded from the data set, leaving 341 cases for the final analysis. The sample included 144 male (42.2%) and 197 female (57.8%) participants. Most of them (90.3%) were younger than 45 years old and 50.9% ($n = 173$) were between 25 and 34 years of age and 19.7% ($n = 67$) were between 35 and 44 years of age. A small percentage of respondents (19.7% or $n = 67$) was younger than 25 years of age. One respondent did not report her age.

About 67.7% of the respondents ($n = 231$) were single, 29% ($n = 99$) were married and 3.2% ($n = 11$) were divorced. Most of the participants had a college education, with 222 holding an Associate or Bachelor's Degree (65.5%) and 15.3% ($n = 52$) holding a Master's Degree. Only 19.2% ($n = 65$) had just a secondary school education. Two participants did not provide answers to this item. In terms of the number of years participants worked in a managerial position, 116 were relatively new to the job with less than two years experience (34.2%). A smaller percentage (24.2% or $n = 82$) were more experienced with a working history in a managerial position of over 10 years. The rest have worked in a managerial position with varied experience from two to five years ($n = 95$, 28%), or six to ten years ($n = 46$, 13.6%). Two respondents did not provide requested information for this item.

The work setting of participants varied as well. The majority of participants

(52.6%) were from NGO, and nearly a quarter of respondents were from the Leisure and Cultural Services Department (the only government body supervising the sport and recreation industry in Hong Kong) or the private sector (23.5% and 23.8%, respectively).

Instrument

The survey instrument used for the present study was a combination of three questionnaires: Godin's Leisure Time Exercise Questionnaire (Godin & Shephard, 1985), the Occupational Stress Indicator-2 (Siu, Donald, & Cooper, 1997; Williams & Cooper, 1996), and the Perceived Wellness Scale (Adams, Bezner, & Steinhardt, 1997).

The Godin Leisure-Time Exercise Questionnaire. The Leisure-Time Exercise Questionnaire contained two questions. The first question asked the respondents to supply information about how many times they participated in each of three levels of exercise in a week (e.g., strenuous, moderate, and mild). Examples of exercises types and lay person descriptions of exercise intensity for each level were also provided to assist the respondents in answering the question. For example, for strenuous exercise, the description was "heart beats rapidly" and the exercise examples were running, jogging, football, soccer, squash, basketball, roller skating, judo, and vigorous swimming. For the second question, respondents were asked how often they engaged in any regular activity long enough to work up a sweat and make the heart beat rapidly. The responses they could choose from were: "often", "sometimes", or "never/rarely". From the information provided, a leisure time exercise index (LTE) was calculated. The formula provided by Godin and Shephard (1985) for this calculation was:

$$\text{Weekly LTE} = 9 \times \text{strenuous} + 5 \times \text{moderate} + 3 \times \text{mild}$$

The Leisure-Time Exercise Questionnaire has acceptable reliability and validity

and has been widely used in various populations (Andrykowski, Beacham, & Jacobsen, 2007; Miller, Freedson, & Kline, 1994; Ng, Cuddihy, & Fung, 2003). Test-retest reliability is acceptable ($r = .74$), and scores on the test are significantly correlated with maximum oxygen consumption ($r = .24$) and body fat ($r = .13$) (Godin & Shephard, 1985).

The Occupational Stress Indicator 2 (OSI-2). The first version of the Occupational Stress Indicator was developed in 1988 by Cooper, Sloan and Williams. In 1996, Williams conducted a thorough review of all studies using the first version of the Occupational Stress Indicator. Based on his analysis, a shortened version – the OSI-2 – was developed. The items from both scales were subjected to a factor analysis. The instrument and each of its subscales was validated and employed in various studies across the world and it has acceptable reliability and validity, especially when examining managerial stress. Siu and her colleagues (Lu, Tseng, & Cooper, 1999; Siu et al., 1997) translated the OSI-2 into Chinese and the instrument has been largely adopted in the Chinese community, including Hong Kong, Mainland China and Taiwan. Therefore, the OSI-2 was considered appropriate and adopted for the present study.

Three subscales from the OSI-2 were utilized in the present study, namely, the, the Coping Scale, the Work Stress Scale, and the Job Satisfaction Scale. The Coping Scale had 10 items, and again, a 6-point Likert scale was used. The number 1 represented “(the coping strategy was) never used by me” and 6 represented “(the coping strategy was) extensively used by me”. The higher the score, the more frequently the respondent adopted the coping strategies. These 10 items were further sub-divided into two factors: 1) control coping; and 2) support coping. For the present study, the scale had acceptable internal consistency ($\alpha = .80$).

The Work Stress Scale consisted of 40 items, each using a six-point Likert type

scale with 1 meaning “definitely not a source of stress” and 6 meaning “definitely a source of stress”; higher scores meant higher stress levels. The 40 items were further sub-divided into eight stress factors: 1) work overload, 2) work relationships, 3) home/work balance, 4) managerial responsibility/role, 5) personal responsibility, 6) hassles, 7) career issues (or recognition), and 8) organization climate. In the present study, the scale demonstrated acceptable internal consistency ($\alpha = .95$).

The Job Satisfaction Scale had 12 items, and a 6-point Likert scale was used. The number 1 represented “strongly dissatisfied” and 6 represented “strongly satisfied”. The higher the score, the more satisfied the individual felt about his/her job. The 12 items were categorized into two factors: 1) satisfaction towards the job, and 2) satisfaction towards the organization. For the present study, the scale had acceptable internal consistency ($\alpha = .92$).

The Perceived Wellness Scale (PWS). The Perceived Wellness Scale contained 36 items and aimed to measure the respondents’ wellness state along six dimensions, namely, the physical, intellectual, social, psychological, spiritual, and emotional dimensions. Examples of the statements were “I am always optimistic about my future (emotional wellness)”; “There have been times when I felt inferior to most of the people I knew (social wellness)”; “Members of my family come to me for support (psychological wellness)”. Responses were scored on a 6-point Likert scale with “1” representing “strongly disagree”, and “6” representing “strongly agree”. Items that were negatively stated were coded in the reverse so that a higher score would mean a better perception of wellness. The Perceived Wellness Scale (PWS) has been employed to investigate wellness in various age-groups (Adams, Bezner, Garner, & Woodruff, 1998; Tsai, 2004) and cultural contexts, including Chinese speaking communities (Tsai, 2004). Validity and reliability of the scale are well established (Adams et al., 1997; Carter, 2004). In addition, the scale had been used with a

Chinese adult population and its acceptability was confirmed (Tsai, 2004). For the present study, the PWS had acceptable internal consistency ($\alpha = .92$).

Data analyses were conducted with SPSS 15.0.

Results

Descriptive Statistics

Table 1 presents the mean scores and standard deviations of all study variables and their sub-scale scores. The mean value of the LTPA index was 19.33 ($SD = 16.66$). The minimum LTPA index reported was 0 and the maximum was 104. Based on the physical activity guidelines for Americans released by the U.S. Department of Health and Human Services (2009), adults should participate in at least two and half hours moderate intensity activity or one hour and 15 minutes of vigorous activity per week. If this recommendation was applied to interpret the values obtained from this study, it would mean that participants would need minimum value of 35 on the scale in order to meet this recommendation. In reality, only 15.1% ($N = 51$) out of the 337 participants who provided information on weekly exercise frequency met the recommended level.

Scores on the coping scales were relatively high (4.30 on a 6 point scale) and very similar for both support and control coping, indicating that sport and recreation managers in Hong Kong do utilize coping strategies.

Overall mean stress level of managers in the sport and recreation industry in Hong Kong was 3.63 ($SD = 0.66$). On a 6 point scale, this indicates moderate stress. This level was lower than that reported by managers in other business sectors in Taiwan ($M = 3.98$) (Lu, Tseng, & Cooper, 1999), and in Hong Kong ($M = 3.83$) (Siu, Spector, Cooper, Lu, & Yu, 2002). But it was higher than the stress level reported by

business managers in the Mainland China ($M = 3.41$) (Siu et al., 2002). To detect differences between the subscale scores, a Hotelling T-squared test was performed and the means of the eight stress factors were statistically different ($F = 51.64, p < .001$). A series of paired-samples t-tests were then conducted and these showed that the mean scores of work responsibility ($M = 3.87, SD = 0.80$), lack of recognition ($M = 3.82, SD = 0.97$), organizational climate ($M = 3.81, SD = 0.77$) and work overload ($M = 3.80, SD = 0.90$) were not statistically different from each other, but the score for work overload was statistically higher than the score for work relationships [$M = 3.63, SD = 0.83, t(340) = 4.16, p < .001$], indicating that the managers perceived highest stress from personal responsibility, a lack of recognition, organizational climate and work overload. The mean value of managerial role ($M = 3.22, SD = 0.81$) was significantly lower than the mean value of home/work balance [$M = 3.43, SD = 0.83, t(340) = -4.91, p < .001$], indicating the managers perceived lower stress from their managerial role compared to the stress related to their home/work balance.

The mean value for job satisfaction was 3.79 ($SD = 0.64$) on a 6 point scale, which indicated the managers were generally satisfied with their jobs. This satisfaction level was higher than that reported by managers in other business sectors in Hong Kong ($M = 3.56$) (Siu et al., 2002). A paired-samples t-test showed that the managers were more satisfied with the job they were performing ($M = 3.91, SD = 0.69$) compared to the organization for which they worked [$M = 3.67, SD = 0.69, t(341) = 8.05, p < .001$].

The overall mean value of perceived wellness was ($M = 4.05, SD = 0.47$), indicating the managers level of wellness was fairly high. Their reported mean scores for the six dimensions, in order from highest to lowest, were: social wellness (4.23), spiritual wellness (4.20), physical wellness (4.11), psychological wellness (3.94), intellectual wellness (3.93), and emotional wellness (3.90).

Table 1 Descriptive Statistics of the Study Variables and Reliability of the Measuring Sales

Factors	Mean	SD	Cronbach's α
Work stress	3.63	0.66	0.95
Personal responsibility	3.87	0.80	0.75
Career issues (Recognition)	3.82	0.97	0.87
Organizational climate	3.81	0.77	0.74
Work overload	3.80	0.90	0.84
Work relationships	3.63	0.83	0.90
Hassles	3.49	0.70	0.62 ^a
Home/work balance	3.43	0.83	0.83
Managerial role	3.22	0.81	0.69 ^a
Job satisfaction	3.79	0.64	0.92
Satisfaction towards the job	3.91	0.69	0.88
Satisfaction towards the organization	3.67	0.69	0.87
Perceived wellness	4.05	0.47	0.92
Social wellness	4.23	0.56	0.70
Spiritual wellness	4.20	0.65	0.76
Physical wellness	4.11	0.64	0.75
Psychological wellness	3.94	0.57	0.66 ^a
Intellectual wellness	3.93	0.53	0.61 ^a
Emotional wellness	3.90	0.62	0.79
Coping	4.30	0.52	0.80
Support coping	4.32	0.67	0.66 ^a
Control coping	4.28	0.63	0.82
Leisure time physical activity	19.33	16.66	

Note: ^a = Does not meet the recommended minimum standard for Cronbach's Alpha (e.g., > .70).

Stress-Strain relationships

There were two main categories of work strain, including job satisfaction and wellness (social, spiritual, physical, psychological, intellectual and emotional). As presented in Table 2 (*see p.94*), significant and negative correlations were identified

between work stress and the following indices: job satisfaction, and all dimensions of wellness except the physical dimension.

Moderating effects of LTPA and coping strategies

To reduce the influence of multicollinearity, the continuous independent variables (IV), namely LTPA, control coping, support coping and work stress were centered about their respective sample mean before they were entered into regression equations. Categorical independent variables were dummy-coded. After all the necessary data preparations, a series of hierarchical regression analyses were performed to test the moderating effects of LTPA and coping strategies on job satisfaction and dimensions of wellness. Correlations among the study variables as presented in Table 2 were used as the initial criterion. IVs having significant correlations with job satisfaction or wellness were entered into regression equations.

In each hierarchical regression analysis, demographics were entered into the equation first, followed by work stress at the second step. At the third step, possible moderators were entered into the equation. Finally, the interaction variables between work stress and moderators were entered into the regression equation. Table 3 presents the results of the hierarchical regression analyses.

Table 3 Predicting Job Strain

	Variables	R^2	Adjusted R^2	ΔR^2	β	F
Job satisfaction						
Step 1	Dummy married				.08	
	Dummy divorced	.01	.01	.01	.07	2.09
Step 2	Work stress	.07***	.07	.06	-.29***	8.93***
Step 3	Control coping				.22***	
	Support coping	.12***	.11	.06	-.001	9.05***
Step 4	Stress \times control				-.04	
	Stress \times support	.13	.11	.01	.12	7.04

Psychological wellness						
Step 1	Dummy Less than 25 y					-.15*
	Dummy 25~34 y					-.17*
	Dummy 45~54 y					-.05
	Dummy 55 y and above					.06
	Dummy secondary school					-.17**
	Dummy masters and above	.06**	.04	.06	.01	3.28**
Step 2	Work stress	.08**	.06	.03	-.24***	8.95**
Step 3	Control coping				.14*	
	Support coping	.19***	.07	.11	.26***	21.30***
Step 4	Stress × control				.08	
	Stress × support	.20	.17	.01	.04	1.79
Emotional wellness						
Step 1	Dummy Less than 25 y					-.20*
	Dummy 25~34 y					-.18*
	Dummy 45~54 y					.08
	Dummy 55 y and above					.09
	Dummy married					.02
	Dummy divorced					-.02
	Dummy secondary school					-.16**
	Dummy masters and above					-.02
	Dummy 2~5 yrs					.09
	Dummy 6~10 yrs					.15*
	Dummy over 10 yrs	.13***	.10	.13	.04	4.44***
Step 2	Work stress	.17***	.14	.04	-.23***	14.34***
Step 3	Control coping				.25***	
	Support coping	.28***	.24	.11	.14**	24.00***
Step 4	Stress × control				-.10	
	Stress × support	.28	.25	.01	.12	1.77
Social wellness						
Step 1	Dummy male	.02**	.02	.02	-.12*	8.15**
Step 2	Work stress	.04*	.03	.01	-.16**	4.50*
Step 3	Control coping				.21***	
	Support coping	.15***	.14	.11	.21***	22.28***
Step 4	Stress × control				.03	
	Stress × support	.15	.14	.001	.01	.27
Physical wellness						
	Control coping				.18**	
	Support coping				.17**	

	LTPA	.12***	.11	.12	.17**	15.23***
Spiritual wellness						
Step 1	Dummy secondary school				-.11	
	Dummy master and above	.02*	.01	.02	.02	3.63*
Step 2	Work stress	.05**	.05	.04	-.27***	12.23**
Step 3	Control coping				.24***	
	Support coping	.18***	.16	.12	.19***	24.59***
Step 4	Stress × control				-.01	
	Stress × support	.20*	.18	.02	.15*	3.78*
Intellectual wellness						
Step 1	Dummy Less than 25 y				-.06	
	Dummy 25~34 y				.02	
	Dummy 45~54 y				.11	
	Dummy 55 y and above	.03*	.02	.03	.09	2.41*
Step 2	Work stress	.05*	.03	.02	-.19***	6.15*
Step 3	Control coping				.36***	
	Support coping				.14***	
	LTPA	.25***	.23	.20	.07	28.55***
Step 4	Stress × control				-.07	
	Stress × support				.17**	
	Stress × LTPA	.27*	.24	.02	-.07	3.36*

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

As shown in Table 3, moderating effects of support coping were identified in the regression equations for predicting spiritual and intellectual wellness. When predicting spiritual wellness, each layer of independent variables made a significant contribution to the equation. A total of 20% of the variance in spiritual wellness was accounted for by the IVs.

Figure 2 presents a schematic of the moderator variables that affected spiritual wellness. Specifically, work stress demonstrated the highest negative and direct effect on spiritual wellness, whereas control coping demonstrated the highest positive and direct effect on spiritual wellness. Support coping demonstrated moderating effects in

buffering the relationship between work stress and spiritual wellness.

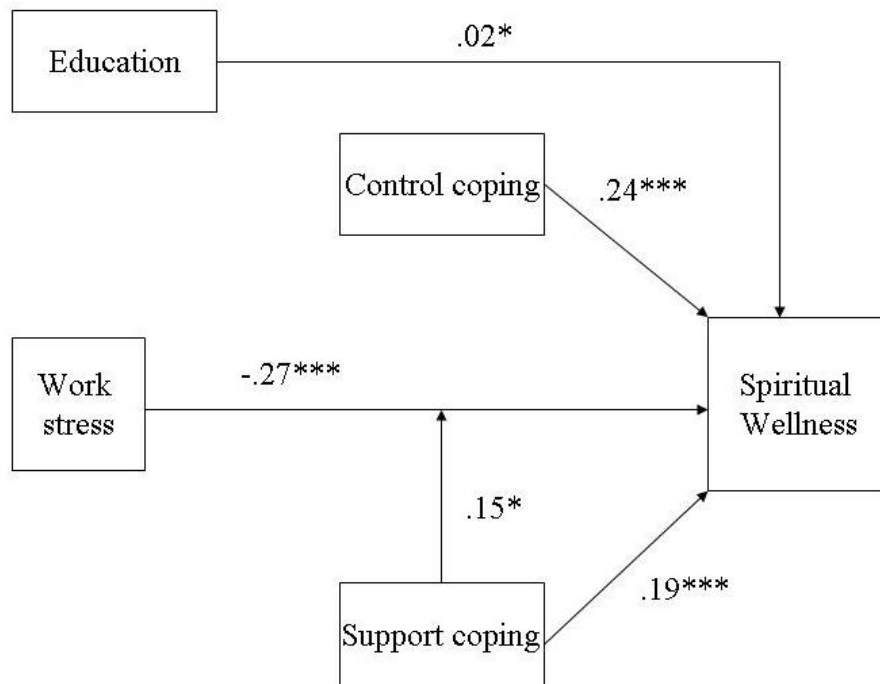


Figure 2 The moderating effects of support coping on spiritual wellness.

Figure 3 presents a schematic of the moderator variables that affected intellectual wellness. Similar to spiritual wellness, when predicting intellectual wellness, all four layers of variables added significant contributions to the equation. A total of 27% of the variance in intellectual wellness could be explained by the IVs. Again, work stress demonstrated the highest negative and direct effect on intellectual wellness, whereas control coping demonstrated the highest positive and direct effect on intellectual wellness. Support coping demonstrated moderating effects in buffering the relationship between work stress and intellectual wellness. Although a significant correlation between LTPA and intellectual wellness was identified, the direct or buffering effect of LTPA on intellectual wellness was not statistically significant.

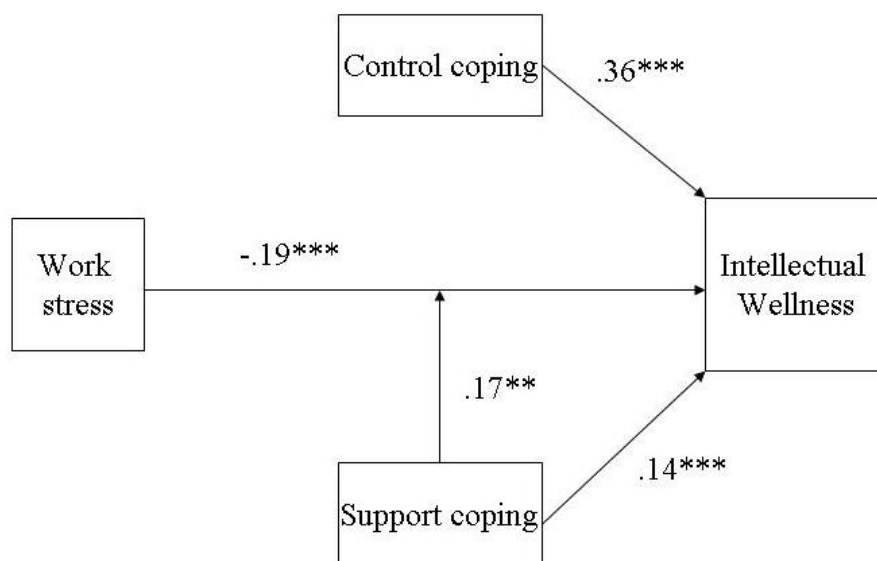


Figure 3 The moderating effects of support coping on intellectual wellness.

When predicting job satisfaction and the other four dimensions of perceived wellness, namely psychological, emotional, social, physical wellness, none of the interaction terms achieved statistical significance. In other words, control coping, support coping and LTPA demonstrated no stress-strain moderating effects in the aforementioned five regression analyses. Details are as follows.

When predicting *psychological wellness*, the first three layers of IVs, including demographics (age and education), work stress, control coping and support coping accounted for 19% of the variance. Work stress (negatively) and support coping (positively) contributed the most in predicting psychological wellness.

When predicting *emotional wellness*, the first three layers of IVs, including demographics (age, education and managerial working experience), work stress, control coping and support coping accounted for 28% of the variance. Work stress (negatively) and control coping (positively) contributed the most to predicting emotional wellness.

When predicting *social wellness*, again, the first three layers of IVs, including gender, work stress, control coping and support coping explained 15% of the variance. Work stress had the strongest negative effects, whereas control coping and support coping had similar and the strongest positive effects on social wellness.

Interestingly, no correlation was identified between work stress and physical wellness, nor between any demographics and physical wellness; therefore, in the regression equation predicting physical wellness, there was only one layer of IVs – control coping, support coping and LTPA. In total, the three IVs explained 12% of the variance. The contributions of each of the IVs to the DV were similar with Beta values ranged from .17 to .18.

When predicting job satisfaction, only two IVs demonstrated significant contributions, namely work stress and control coping. In total, 12% of the variance in job satisfaction could be explained by work stress (negatively) and control coping (positively).

Reliability

Table 1 summarizes Cronbach's alpha values for all of the scales and subscales to establish internal consistency. Internal consistency for all five scales was acceptable and ranged from .80 (coping) to .95 (work stress). Internal consistency was lower for some of the subscale measures, but most values were acceptable (>.70).

Discussion

The most important findings of this study were that (a) very few managers accumulated the recommended amount of LTPA, (b) levels of stress were relatively low and job satisfaction and wellness were relatively high, (c) stress was a negative

influence on all dimensions of wellness except the physical dimension, (d) support coping moderated the effects of stress on spiritual wellness and intellectual wellness, and (e) both types of coping (control and support) had significant and direct effects on wellness,

LTPA

Levels of LTPA were relatively low in sport and recreation managers in Hong Kong ($M = 19.33$; $SD = 16.66$ units). No study was found conducted on a similar population, but Ng et al. (2003) reported LTPA indices of 28.65 and above among Hong Kong college students. Chung and Phillips (2002) reported indices of 81.5 among US high school boys and 78.4 among girls, 58.8 among Taiwan high school boys and 46.8 for girls. It is reasonable to assume that students are usually more active than adults (Haskell et al., 2007), but the lifestyle of the sport and recreation managers was far from being physically active. Many researchers who have used the Godin Leisure-Time Exercise Questionnaire reported the proportions in their respective study population meeting the recommended amount of exercise. For example, Karvinen, Courneya, North, and Venner (2007) reported that 22% of bladder cancer survivors met the recommended level of PA. Archie et al. (2007) found that 40% of a Canadian community patient sample with a psychotic disorder met the public health exercise guidelines. Haskell et al. (2007) reported that in 2005 49.1% of US adults met the guidelines. The Millennium Sport Study initiated by the then Hong Kong Sport Development Bureau (SDB) in 2004 found that 23.7% of the interviewed citizens reported participating in sufficient physical activities that could bring significant health benefits (Resource Center on Healthy Aging, 2006). In a similar territory wide study conducted by Hong Kong Polytechnic University in 2006, 21.6% of the respondents reported participating in an adequate amount of exercise that could enhance their health (The Hong Kong Polytechnic University, 2006). In the latest

study conducted by Hong Kong Baptist University, only 16% of the study respondents reported meeting the exercise guidelines for good health (Hong Kong Baptist University, 2007).

Compared to past research summarized above, in the present study, only 15.1% of the respondents reported meeting the recommended exercise level. This lack of LTPA in managers is not unexpected given the population density, poor air quality, and lack of recreational space in Hong Kong. In addition, managers are usually quite busy with various tasks associated with running a large scale event. This typically leaves little time for exercise.

Managers in the sport and recreation industry supposedly know very well about the benefits of exercise. To increase levels of LTPA in this population, perhaps improving their time management skills is more important to make sure they can schedule some time every day for LTPA. Increasing recreational space throughout Hong Kong will benefit all citizens of the community, including sport and recreation managers. However, in order to identify and develop the most appropriate and effective strategies to increase their LTPA participation, the authors suggest an investigation be conducted on the barriers to LTPA participation among sport and recreation managers.

Work stress and work strain (job satisfaction and wellness)

Managers in the sport and recreation industry in Hong Kong reported lower levels of stress than their counterparts in other business sectors in Hong Kong and Taiwan. On the one hand, about 68% of sport and recreation managers in the present sample were single, whereas 73.2% of the Taiwan managers (Lu et al., 1999) and 47.3% of the managers in the previous Hong Kong study (Siu et al., 2002) were married. This difference in the proportions of married participants could be a possible reason for the comparatively low stress level in the sport and recreation managers

because literature suggests that married individuals experience more stress than their unmarried counterparts (Thoits, 1987). Managers who were single were free from family burdens or who had possibly more exposure to a broad social network, may have had less work stress. On the other hand, the moderate stress level may implies that managerial work in the sport and recreation industry in Hong Kong is less stressful than that in other sectors of the economy where managers are driven by sales figures or market shares. Compared with the managers in Mainland China, the stress level of managers in the present study was higher. The reason for this higher stress level is very likely because working in Hong Kong is generally more stressful than working in Mainland China. The work pace is much faster and the individual workloads are typically higher in Hong Kong.

Managers in the sport and recreation industry reported the highest stress scores in personal responsibility, a lack of recognition, organizational climate and work overload, whereas the lowest stress scores were from their managerial role.

A manager's personal responsibility includes making important decisions, taking certain risks or having to tolerate uncertainties. Quite often, whether a manager can make correct decisions may impact the development of the organization or the benefits of employees. In the Chinese culture where "guanxi" (interpersonal relationship) has been highly valued for thousands of years, such frequent exercises of power may distress the managers as they may worry about spoiling the "guanxi" with their coworkers or important individuals in their working relationships. Similar findings relative to high responsibility stress were also reported in previous studies (Lu et al., 1999; Siu et al., 1997; Widerszal-Bazyl, Cooper, Sparks, & Spector, 2000).

Lack of recognition was another stressor among sport and recreation managers. Often, managers take prospects of promotion as recognition of their contribution. Stress may be induced when they can not foresee such possibilities and feel their

performance is not recognized by higher level management.

The third stressor was organizational climate. In a study conducted in western culture, it was reported unfavorable organizational climate contributed to managers' physical illness (Bogg & Cooper, 1995). This finding implies that reducing managerial stress in the sport and recreation industry is important for fostering a supportive working environment.

Work overload was another stressor in the sport and recreation managers. According to the Confederation of Trade Unions ("Hong Kong labour unions call for working hours law," 2008), about 40% of employees in Hong Kong worked more than 48 hours a week while 300,000 workers spent 60 hours per week working. Pressure experienced due to work overload is common in Hong Kong. Policy makers should study work trends in Hong Kong to ensure that work conditions are fair and ethical.

The present study found that sport and recreation managers perceived the least stress from their managerial role, which was consistent to the findings of Lu et al. (1999) who studied a group of Chinese managers in Taiwan. A closer examination of the items considered part of the managerial role showed activities like supervising the work of others, being regarded as a "boss", making business trips, and so on. Many managers may feel that such activities are a symbol of their social status rather than an undesirable or pressure-filled part of the job.

Sport and recreation managers in Hong Kong reported higher levels of job satisfaction compared to managers in other industries. This is a positive finding for the sport and recreation industry in Hong Kong. It has been well-documented that job satisfaction is correlated with better work performance, lower turnover rates, fewer absences, and better mental health among employees (Judge, Thoresen, Bono, & Patton, 2001). Therefore, for the sport and recreation organizations in Hong Kong, if the current satisfaction level can be maintained or further enhanced, it will benefit the

industry in many respects.

As for what an organization can do to improve its employees' job satisfaction, management literature suggests many tips. For example, organizations can provide employees with reassurance about their competence through training, recognition and feedback. Additionally, positive workplace relations should be highly encouraged. Meaningful breaks and light diversions within the workplace may be helpful (Loehr & Schwartz, 2003).

Another encouraging finding of the present study was that managers in the sport and recreation industry had relatively high levels of wellness including social, spiritual, physical, psychological, intellectual and emotional dimensions. Employee health and wellness has long been the major concern of government and international health organizations (e.g., WHO) because enhanced employee wellness can directly reduce healthcare costs and indirectly reduce the cost of absenteeism and loss of productivity (Blanton, 2007).

Stress-strain relationship

The present study found significant and small negative correlations between work stress and the strain variables, including job satisfaction and five dimensions of wellness (i.e., psychological, emotional, social, spiritual and intellectual). Work stress was not significantly related to physical wellness. This finding seems inconsistent with many previous studies that found stress contributes to many physical illnesses such as headaches, heart disease, high blood pressure, and lower immunity (Holroyd et al., 2001; Maddock & Pariente, 2001; Salavecz et al., 2010; Vrijkotte, van Doornen, & De Geus, 2000). A possible reason for these discrepant findings might be that the overall stress level perceived by the managers was not high enough to cause physical illness. However, the negative correlations between work stress and the rest five dimensions of wellness and job satisfaction still requires our attention. If we seek to

continue to reduce the negative effects of stress, it is critical to find out the possible moderators of the stress-strain relationship.

Stress-moderator-strain

Support coping demonstrated moderating effects on the relationship between work stress and spiritual wellness. Support coping refers to the strategies that an individual adopts to cope with stress, and such strategies mainly involve seeking emotional support from others or seeking self-fulfillment in other hobbies. Spiritual wellness means “a positive sense of meaning and purpose in life” (Adams, Bezner, Drabbs, Zambarano, & Steinhardt, 2000, p. 167). For some people, it may connect with religious beliefs, that is, the relationship between the individual and his/her god. For others, spiritual wellness may mean the relationship between the individual and nature or significant others, such as family, colleagues, and so on. According to Lazarus (1993), seeking emotional support from others may be significantly helpful to our health, especially in situations when we have little control of an outcome or when nothing effective can be done to change the situation. Trying to solve the problem in a rational way may simply make the situation worse. This is especially true among managers because one of their most important responsibilities is making decisions. On many occasions, there are no objective measures for being right or wrong, but there are comparatively better or more appropriate decisions. Therefore, support from others means a lot to managers. Particularly in the Chinese culture, to maintain the good “guanxi”, managers usually value support and understanding from others. When they perceive support from others, they may feel their work is more meaningful and their expertise is more valuable.

Support coping also demonstrated moderating effects on the relationship between work stress and intellectual wellness. Adams, et al. (2000) defined intellectual wellness as “perception of being internally energized by an optimal

amount of intellectually stimulating activity” (p. 167). In other words, intellectual wellness entails knowledge (professional and general), common sense and creativity. Such factors influence managers’ thoughts which in turn influence their decision-making. Our interpretation is that by gaining understanding from others, and staying current and invested in relevant activities, managers can resume energy and think more creatively and efficiently. This finding was consistent with those of other management studies (e.g., Loehr & Schwartz, 2003) in that good workplace relations and appropriate occasional diversions from work were good for employee morale, health, and performance.

We therefore recommend that sport and recreation organizations make more social support resources available to their managerial staff, including fostering a culture of organizational support so managers will feel more comfortable seeking support (when necessary), and organizing workshops to help managers improve their skills in seeking social support.

Apart from serving as moderators against stress, spiritual and intellectual wellness, support coping, and control coping showed positive and direct effects on wellness. Specifically, being able to make use of various control coping strategies (e.g., time management, priority setting, thinking before taking action, and controlling one's emotions) is helpful for enhancing employee wellness. This finding is consistent with the literature (e.g., Siu et al., 2002) that indicates control coping strategies were positively correlated with mental and physical well-being. Since over 90% of the managers in the present study were younger than 45 years old and 34% were new to the job, they might experience higher level of uncertainties about their life and future career development. Therefore, it is reasonable to assume that they would feel better if they could adopt certain strategies to control their work. The sport and recreation organizations should consider enriching their training strategies for managerial staff

by including training programs aimed at improving managers' control coping ability (e.g., workshops in time management, delegation, setting priorities, etc.).

Conclusion

The present study found that managers in the sport and recreation industry in Hong Kong are not obtaining adequate exercise. Three-fourths of them were leading a sedentary life, which is not good for their overall health and well-being. Though this study did not find a moderating effect of LTPA on the stress-strain relationship, it might be due to the generally low level of LTPA and the moderate level of stress reported by many of the respondents. We still strongly recommend that our managers to do more physical exercise for the sake of their holistic wellness. Support coping demonstrated moderating effects on the stress-spiritual wellness and stress-intellectual wellness relationships, which indicated the importance of supportive relations and a supportive environment to managers' wellness, especially in their self-perceived values and stimulated thinking. Availability of social support resources to the managers and their own ability to seek such support are important. Control coping also showed a positive impact on the managers' state of wellness. Therefore, it is suggested that sport and recreation organizations provide training for their managers in order to improve their control coping ability.

The present study adopted a quantitative approach which hindered our ability to get further information about some unique findings. Additionally, the convenience sampling method imposed restrictions on generalizing the findings to this entire population. Considering such limitations in the present study, we hope future researchers will give continuous attention to this population and use more sophisticated approaches in their investigations.

Table 2 Correlations among Demographics and Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1. gender	1																			
2. age	-.10	1																		
3. marital status	-.05	.54**	1																	
4. education	-.01	.13*	.03	1																
5. work years	-.02	.70**	.52**	.19**	1															
6. org. type	-.02	-.14*	-.12*	-.24**	-.14*	1														
7. work stress	-.03	.04	.07	.05	.08	-.11	1													
8. CC	.01	.11*	.11*	.09	.15**	.00	.08	1												
9. SC	.15**	-.12*	-.10	.10	-.09	.02	.07	.37**	1											
10. LTPA	-.07	-.10	-.10	.02	-.09	-.02	-.04	.04	.15**	1										
11. JS	-.10	.09	.11*	.10	.06	.02	-.24**	.21**	.05	-.04	1									
12. JS job	-.06	.15**	.13*	.13*	.11*	.03	-.20**	.22**	.04	-.04	.92**	1								
13. JS org	-.12*	.02	.07	.05	.01	.01	-.25**	.16**	.05	-.03	.92**	.69**	1							
14. PSYWEL	.07	.11*	.01	.18**	.10	-.04	-.13*	.25**	.30**	.05	.28**	.26**	.25**	1						
15. EMOWEL	.00	.28**	.16**	.19**	.25**	-.08	-.16**	.35**	.19**	.07	.32**	.35**	.24**	.59**	1					
16. SOCWEL	.15**	.10	.06	.10	.07	-.05	-.12*	.27**	.29**	.01	.28**	.30**	.21**	.52**	.51**	1				

17. PHYWEL	-.04	.04	.05	.10	.06	.02	-.10	.25**	.26**	.20**	.25**	.25**	.20**	.52**	.50**	.40**	1		
18. SPIWEL	.02	.07	.06	.14**	.01	.04	-.17**	.30**	.27**	.10	.34**	.34**	.29**	.66**	.61**	.56**	.56**	1	
19. INTWEL	-.06	.13*	.05	.07	.05	.09	-.14**	.41**	.26**	.12*	.41**	.41**	.35**	.48**	.58**	.43**	.56**	.63**	1

CC = control coping; EMOWEL = emotional wellness; INTWEL = intellectual wellness; JS = job satisfaction; LTPA = leisure time physical activity; PHYWEL = physical wellness; PSYWEL = psychological wellness; SC = support coping; SOCWEL = social wellness; SPIWEL = spiritual wellness.

** $p < 0.01$; * $p < 0.05$.

References

- Adams, T., Bezner, J., Garner, L., & Woodruff, S. (1998). Construct validation of the perceived wellness survey. *American Journal of Health Studies*, 14(4), 212-219.
- Adams, T., Bezner, J., & Steinhardt, M. (1997). The conceptualization and measurement of perceived wellness: Integrating balance across and within dimensions. *American Journal of Health Promotion*, 11 (3), 208-218.
- Adams, T., Bezner, J. R., Drabbs, M. E., Zambarano, R. J., & Steinhardt, M. A. (2000). Conceptualization and measurement of the spiritual and psychological dimensions of wellness in a college population. *College Health*, 48, 165-173.
- Andrykowski, M. A., Beacham, A. O., & Jacobsen, P. B. (2007). Prospective, longitudinal study of leisure-time exercise in women with early-stage breast cancer. *Cancer Epidemiology Biomarkers and Prevention*, 16(3), 430-438.
- Antoniou, A.-S. G., Davidson, M. J., & Cooper, C. L. (2003). Occupational stress, job satisfaction and health state in male and female junior hospital doctors in Greece. *Journal of Managerial Psychology*, 18(6), 592-621.
- Archie, S. M., Goldberg, J. O., Akhtar-Danesh, N., Landeen, J., McColl, L., & McNiven, J. (2007). Psychotic disorders, eating habits, and physical activity: Who is ready for lifestyle changes? *Psychiatric Services*, 58(2), 233-239.
- Blanton, C. (2007). Wellness and prevention programs generate healthy outcomes for

consumers and a business' bottom line, *Orange County Business Journal*.

Bogg, J., & Cooper, C. (1995). Job satisfaction, mental health, and occupational stress among senior civil servants. *Human Relations*, 48(3), 327-341.

Carter, C. S. (2004). *Effects of Formal Dance Training and Education on Student Performance, Perceived Wellness, and Self-Concept in High School Students*. Unpublished PhD thesis, University of Florida, Gainesville, Florida.

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.

Chung, M. H., & Phillips, D. A. (2002). The relationship between attitude toward physical education and leisure-time exercise in high school students. *Physical Educator*, 59(3), 129-138.

Dewe, P., Cox, T., & Ferguson, E. (1993). Individual strategies for coping with stress at work: A review. *Work & Stress*, 7(1), 5-15.

Ebrecht, M., Hextall, J., Kirtley, L. G., Taylor, A., Dyson, M., & Weinman, J. (2004). Perceived stress and cortisol levels predict speed of wound healing in healthy male adults. *Psychoneuroendocrinology*, 29(6), 798-809.

Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in middle-aged community sample. *Journal of Health and Social Behavior*, 21, 219-239.

Godin, G., & Shephard, R. J. (1985). A simple method to assess exercise behavior in the

community. *Canadian Journal of Applied Sport Science*, 10, 141-146.

Haskell, W. L., Lee, I.-M., Pate, R. R., Powell, K. E., Blair, S. N., Franklin, B. A., et al.

(2007). Physical activity and public health: Updated recommendation for adults from the American College of Sports Medicine and the American Heart Association.

Medicine and Science in Sports and Exercise, 39(8), 1423-1434.

Health and Safety Executives. (2010). Health and safety statistics 2008/09 (pp. 28).

Merseyside, UK.

Holroyd, K. A., O'Donnell, F. J., Stensland, M., Lipehik, G. L., Cordingley, G. E., &

Carlson, B. W. (2001). Management of chronic tension-type headache with tricyclic antidepressant medication, stress management therapy, and their combination: A randomized controlled trial. *The Journal of the American Medical Association*, 285(17), 2208-2215.

Hong Kong Baptist University. (2007). *How active is the Hong Kong public?* . Retrieved

December 16, 2008, from

http://www.hkolympic.org/article/articles_archive_view/1158

Hong Kong labour unions call for working hours law. (2008, July 17). *Business News*.

Jamal, M. (2005). Short communication: personal and organizational outcomes related to job stress and Type-A behavior: a study of Canadian and Chinese employees. *Stress and Health*, 21, 129-137.

Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction-job

- performance relationship: A qualitative and quantitative review. *Psychological Bulletin*, 127(3), 376-407.
- Karvinen, K. H., Courneya, K. S., North, S., & Venner, P. (2007). Associations between exercise and quality of life in bladder cancer survivors: A population-based study. *Cancer Epidemiology Biomarkers & Prevention*, 16, 984-990.
- Lazarus, R. S. (1993). Coping theory and research: Past, present, and future. *Psychosomatic Medicine*, 55, 234-247.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.
- Loehr, J., & Schwartz, T. (2003). *The power of full engagement: Managing energy, not time, is the key to high performance and personal renewal*. New York: Free Press.
- Lu, L., Cooper, C. L., Kao, S.-F., & Zhou, Y. (2003). Work stress, control beliefs and well-being in Greater China: An exploration of sub-cultural differences between the PRC and Taiwan. *Journal of Managerial Psychology*, 18(6), 479-510.
- Lu, L., Tseng, H. J., & Cooper, C. L. (1999). Managerial stress, job satisfaction and health in Taiwan. *Stress Medicine*, 15, 53-64.
- Maddock, C., & Pariante, C. M. (2001). How does stress affect you? An overview of stress, immunity, depression and disease. *Epidemiologia e Psichiatria Sociale*, 10(3), 82-91.
- Miller, D. J., Freedson, P. S., & Kline, G. M. (1994). Comparison of activity levels using Caltrac accelerometer and five questionnaires. *Medicine and Science in Sports and Exercise*, 26, 376-382.

Motion on "Promoting the sports development in Hong Kong". (2010). Retrieved March

30th, 2010, from

www.legco.gov.hk/yr09-10/english/legco_rpt/legco_motion01072-e.pdf

Nabkasorn, C., Miyai, N., Sootmongkol, A., Junprasert, S., Yamamoto, H., Arita, M., et al.

(2006). Effects of physical exercise on depression, neuroendocrine stress hormones and physiological fitness in adolescent females with depressive symptoms. *European Journal of Public Health*, 16(2), 179-184.

Ng, J. K., Cuddihy, T., & Fung, L. (2003). Prediction of leisure exercise behaviors: A

study on university students of Hong Kong. *Journal of Physical Education and Recreation (Hong Kong)*, 9(1), 8-19.

Occupational Safety and Health Council. (2002). Survey report on awareness of

occupational stress in Hong Kong. Hong Kong: Lingnan University.

Office for National Statistics. (2010). *Labor market*. Retrieved February 8th, 2010, from

<http://www.statistics.gov.uk/cci/nugget.asp?ID=12>

Olympic Council of Asia. (2009). *Hong Kong government ready to support Asian Games*

bid. Retrieved March 30th, 2010, from

http://en.olympic.cn/news/olympic_news/2009-12-15/1939113.html

Resource Center on Healthy Aging. (2006). *Exercise*. Retrieved December 10, 2008, from

http://healthyageing.sph.cuhk.edu.hk/exercise_en.htm

Salavecz, G., Chandola, T., Pikhart, H., Dragano, N., Siegrist, J., Jöckel, K.-H., et al.

- (2010). Work stress and health in western European and post-communist countries: An East-West comparison study. *Journal of Epidemiology and Community Health*, 64, 57-62.
- Siu, O.-l., Donald, I., & Cooper, C. L. (1997). The use of Occupational Stress Indicator (OSI) in factory workers in China. *International Journal of Stress Management*, 4(3), 171-182.
- Siu, O.-l., Spector, P. E., Cooper, C. L., & Lu, C.-q. (2005). Work stress, self-efficacy, Chinese work values, and work well-being in Hong Kong and Beijing. *International Journal of Stress Management*, 12(3), 274-288.
- Siu, O.-l., Spector, P. E., Cooper, C. L., Lu, L., & Yu, S. F. (2002). Managerial stress in Greater China: The direct and moderator effects of coping strategies and work locus of control. *Applied Psychology: An International Review*, 51(4), 608-632.
- The Hong Kong Polytechnic University. (2006). The executive summary of the public opinion survey on physical exercise participation in Hong Kong.
- Thoits, P. A. (1987). Gender and marital status differences in control and distress: Common stress versus unique stress explanations. *Journal of Health and Social Behavior*, 28(1), 7-22.
- Torkelson, E., & Muhonen, T. (2004). The role of gender and job level in coping with occupational stress. *Work & Stress*, 18(3), 267-274.
- Tsai, C.-Y. (2004). *The relationships between leisure participation and perceived wellness*

among Taiwanese adults ages 55 to 75 years (China). Unpublished PhD thesis, University of the Incarnate Word, San Antonio, Texas.

U. S. Department of Health and Human Services. (2009). 2008 Physical activity guidelines for Americans. In U. S. Department of Health and Human Services (Ed.). Washington, D. C.

Vrijkotte, T. G. M., van Doornen, L. J. P., & De Geus, E. J. C. (2000). Effects of work stress on ambulatory blood pressure, heart rate, and heart rate variability. *Hypertension, 35*, 880-886.

Widerszal-Bazyl, M., Cooper, C. L., Sparks, K., & Spector, P. E. (2000). Managerial stress in private and state organizations in Poland. *Stress Medicine, 16*, 299-314.

Williams, S., & Cooper, C. L. (1996). *Occupational stress indicator: Version 2*. Harrogate, North Yorkshire: RAD.

Motivation Through Sports: Comparing Self Esteem Among University Students in Malaysia

Megat Ahmad Kamaluddin Megat Daud
Faculty of Education, University of Malaya

Wirdati Mohd Radzi
Sports Center, University Malaya

Husni Mohd Radzi
Institute of Liberal Studies, Universiti Tenaga Nasional

Motivation Through Sports: Comparing Self Esteem Among University Students in Malaysia

Abstract

Sports involvement has been reported to have positive effects on young adults especially in reducing deviant behavior (Holland & Andre, 1987; Larson, 1994). This preliminary research will investigate the pattern of sports involvement among selected UNITEN students and their motivation level through an increase in their self esteem. Motivation is defined as a drive or inner urges that make people want to do something. Motivation is developed from within and is manifested as actual acts performed voluntarily. This paper discussed the motivation factors among UNITEN students. (It will look at whether involvement in sports will increase motivation that will lead to positive self-esteem among students.) A study showed low self esteem has been identified as a risk factor for aggression, delinquency, drug abuse and many other (Frankern, 1998). A modified Self Description Questionnaire 3 (SDQIII) designed by University of West Sydney (http://self.uws.edu.au/Research%20Focus/self_instruments.htm) was distributed among two groups of students in UNITEN (N=244) to gather the required data. The data was then analyzed to see the connection between perceived motivations enhanced and increased self-esteem among UNITEN students in sports involvement. Another coherence survey was also conducted in semester 1 2008/2009 where a different tools known as Rosenberg Self-Esteem Scale (Rosenberg, 1965), was used with a wider population including 200 new samples from UNITEN and an equal 200 sample from Sport Science program of University Malaya. The data is analyzed and will be compared between the two reputable institutions.

Introduction

Sports are not just fun and physical. Sports are link to many aspects of life. What goes on in the sport usually affected people outside the field of sports. Sports activity itself has intrinsic values of joy, pleasure, pride and all are worth striving. Sport and other physical activity are claimed to have positive effects on general health and provide the feeling of competence and accomplishment (Bakker et. al., 1995).

In sport, intrinsic and extrinsic motivations are interwoven with each other. One will occur if the other one exists although occurrences are not simultaneous. Many people enjoy sport and physical activity purely because the activity itself is fulfilling, some doing it to gain reward, or other material gratification. Motivation in sports is more directed to the source of the motivation, the direction and later the maintenance of the disposition, “the origin, the direction and the persistence of behavior” (Orlebeke, 1981).

Conceptual Definition:

Motivation is a disposition that can be activated under certain circumstances. It is a state of an organism held responsible for the carrying out of a particular activity (Bakker et al., 1995). Motivation cans also being seen as a plan of action or ambition to attain success and avoiding failure. It also involved putting certain amount of understanding and ability to expand resources in order to achieve any goals or rewards. Murray (1938) defines motivation as ‘to overcome obstacle, to exercise power, to strive to do something difficult as quickly as possible’. (Larson, 2000) sees initiative as a core requirement for other components of positive development, such as creativity, leadership, altruism and civic engagement. In other words it is about having a proactive attitude and taking charge of some task or even larger aspect such as one’s course of life.

The question remain is what is it about sport and physical activity itself that helps to increase motivation and can determine whether or not the person actually engage in the

activity (Alderman, 1976). It is also a quest to discover what dimensions of individual differences are really needed to explain why people do what they do and when they do it (Atkinson, 1981). This preliminary research will focus on how this inner drive is developed, what situation that will be most suitable to foster the drive and how does it connected to human overall self-esteem if there is any. It will be narrowed down into levels of motivation student have during certain learning environment and this research at this moment is only within UNITEN population.

Research Hypothesis:

Many researches have indicated that initiative can be instigated provided it was fostered in a conducive surrounding or context. Csikszentmihalyi and Larson (1984) have found out that youth showed high level of concentration during class and lecture session but at the same time reporting high level of boredom. In contrast, youth reported high level of motivation in leisure activity but show very low concentration. Simultaneously it showed that both conditions are not the most suitable context to foster motivation.

This research hypothesis is to see whether the sport activities (subject / class /program) is more effective (in improving students self-esteem) than the students in the / traditional method (with- out sport activities subject / class /program).

The most suitable context to develop initiative is through a balance of academic and leisure activity. A type of activity that is specially designed which allow certain amount of fun in order to achieve a goal or attain academic excellence. It was assumed that the program has a balanced approach to help in developing other inter-personal and social skills of a person as well as other pragmatic, knowledge based skills such as event management and budgeting. It is also effective in nurturing a sense of cooperation and team- work among its participants not only through out the project or task but will be used widely in the youth adolescent life.

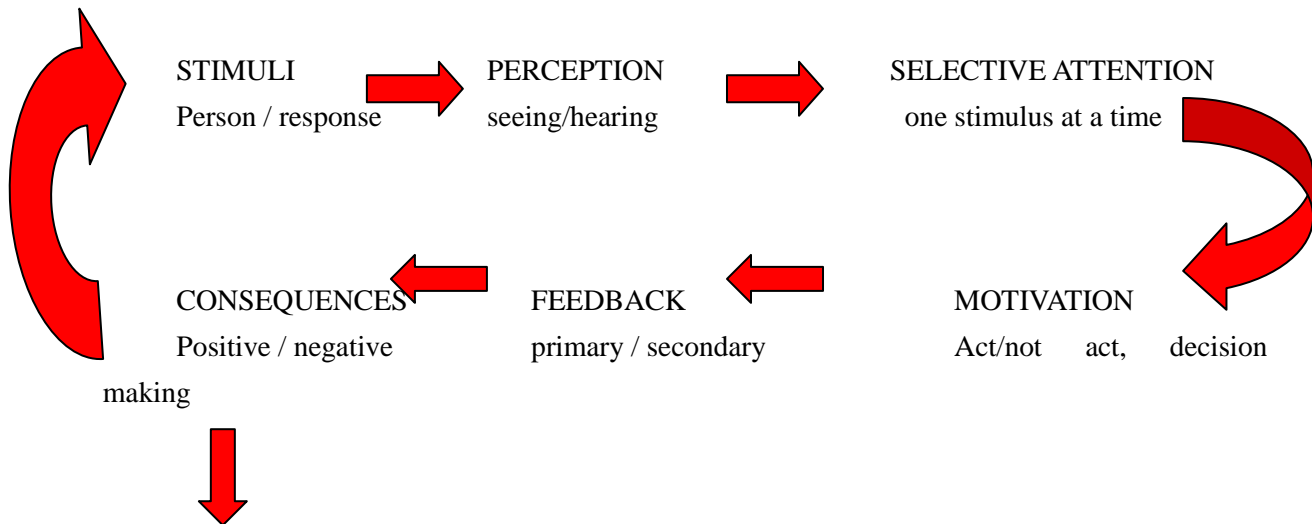
Literature Review

(i) Motivation

Motive and motivation usually describe as synonym. Motive is comprise of relatively abstract goal and action expectation which has been developed in continuous interaction with the environment (Hekhausen, 1974). Motivation has been known as having two dimensions, one dimension is externally stimulated thus known as extrinsic motivation and Deci (1975), defined intrinsic motivation as the drive coming from within, that make a person behave in certain way as to make him / her feel competent. Extrinsic motivation is when the reward or the goal is obtaining material or physical incentive. Research showed that when reward is physically administered extrinsically motivated children maintained their performance longer than did intrinsically motivated children (Franken, 1998).

Intrinsic motivation is a concept of novelty, looking for something not fully processed, new challenges to explore and obtaining one's goal for own satisfaction and private achievement. Intrinsic motivation is the kind of drive that we want all the youth to have, the kind of motivation that can be self-observed, self-evaluate and self-react. Motivation that does not need any physical reward but rather can be propelled almost automatically.

Motivation in sports can be separated into primary motivation and secondary motivation. The primary motivation connotes the idea that motivation come from the joy of doing the physical activity it self. While the later indicate any form of external influence such as material gain and psychological fulfillment such as positive feedback. Bakker et al. (1995) said the interrelatedness of the two motivations sometime showed in person liking to perform the sport activities and enjoying the physical reward at the same time. The relationship between our action, feedback and motivation can be described by the figure below.



MOTIVATION

To further the action and attention / ignore

Relationship between action, feedback and motivation. (Stephen J. Bull, 1991)

Human react to the surrounding and environment through their perceptions in the form of hearing, smelling, sighting and feeling. After analyzing the stimulus received, it will trigger their needs to response. If the cognitive process of the person chooses to react, than the person will react with an anticipation of certain feedback or response from the stimulus sources. This feedback can be a positive response where it will strengthen the behavior conducted, or it can be in negative form where it will hinder the behavior from reoccurring. These consequences also determine whether the person will continue to react to the same stimulus or will ignore it in the future.

In learning environment, motivation is very crucial because it determines the quality of the learning process and the out-come to a great extend. Both teachers and learners need motivation or need to be motivated to excel in their roles. Motivated students can be characterized as having high concentration in learning and actively involve in learning activities. They are always being the drivers behind a project, working independently and are not afraid to share their opinions. These students also are more likely to succeed in

their academic years and beyond. Research showed that student's intrinsic learning motivation and interaction with school administration improve when they are involved in club or society activities (Hess, Kerssen-Griep, & Trees, 2003).

According to learning theories (Cotton, 1995; Stipeck, 2002) motivation is related to the curiosity about certain things. It's connected with the need to search, find out, arrange and analyze certain information. Research and experiment conducted in learning process provide this reflective opportunity for the student to apply the skills of investigating. In achievement theories (Frankern, 2002; Cairo, 1997) motivation is about having as many successes as possible and simultaneously avoiding any possibility of failing. Every achievement will become a motivating factor to conquer another challenge or to pursue a new investigation. A study by Dean and Gifford (1990) examine that extracurricular activities participation and achievement have positive relationship with students and school administration relation, academic performance and attitude towards self.

Larson et al. (1989) conducted a research to measure youth motivation level in different setting required the researched group to record their feelings, emotion and motivation whenever the pager or the alarm watch went off. Result indicated that youth feel high concentration during class and homework session but no sense of motivation and some even reported inability to understand the lesson. While in leisure activities, the same group of youth show a high level of motivation but low level of concentration (Larson et al., 1989; Larson & Kubey, 1983). The task now is how to create the intrinsic motivation in every student and maintain it for longer period and channeled it to improved students overall self-esteem.

(ii) Self-Esteem:

Self-esteem has been linked to a broad range of positive behavior such as mastery of skills and achievement and well being. Self- esteem is a way of how one feels about oneself or the degree of knowing own strength and weaknesses. It's a sense of personal

worth and competence that person associate with his/her self-concept (Corsini, 1984). High self-esteem is having pride in oneself, accepting all the imperfection and cherishing the strength and positive qualities (Parecki & Lazarus, 1991, p. 441). Low self-esteem may be defined as the shame that comes from looking at one self as lacking knowledge and abilities important to valued others. Low self-esteem has been identified as a risk factor for aggression, delinquency, drug abuse and many others (Franken, 1998).

Three major sources of self esteem are i.) Self-evaluation, most likely to occur when individual experience success or failure, ii.) Success in valued domains, person attach more important domain of success, different from one to another. Failing in domain that is important to the person has significant impact on a person and finally iii,) Societal values where success or failure depends on the benchmark and approval set up by the society or surrounding people.

Self-esteem can be increased through a change in a person's self-concept. Youth have to perceive themselves as resourceful to achieve all the great things in life. Youth need to be more optimistic, hopeful and aware of their own strengths and weaknesses. They need to become more knowledgeable and achievement oriented. All the successes attained must be in accordance with the values that the person believes. The importance of getting involved in sports activities is however different from one person to another. Research indicates that participation in college organization and similar out of class student's activities is related in increased skill development and other dimension of personal growth (Abrahamowicz, 1988).

(iii) Sports Activities:

Sport activities can be defined as extra curricular school activities, sports and out door recreational activities that have phases in the flow and require careful or proper planning. Sports activities that the research is emphasizing here consist of structured, putting certain constrain, providing rules to attain certain goals. These activities can be

school based with or without grade, extracurricular activities, sports, where youth experience the rare combination of intrinsic motivation together in deep attention.

This kind of activities show co-occurrence of motivation and attention that gives the implication that youth generates and direct their own motivation and initiative. Many of structured activities involve cumulative planning and action for the duration of program or seasons (Heath, 1994, Larson & Kleiber, 1993). Youth will have the sense of completing their own personal project involving concerted effort over time towards an outcome (Little, 1983).

One important element included in youth activities is team work, in which youth are required to work together to accomplish certain goals. Individual efforts are accepted as integral parts of a winning team. Even though the team loses, being together towards the end as a team is an accomplishment in its own. When the team progressed to the next level, it will trigger the participation of other team members to take more active roles. Thus, team work or cooperation becomes the main element while winning a challenge becomes the secondary element.

These activities also include element that can help in promoting positive self-concepts. It facilitates group binding among team members; improves managerial skills and communication techniques. Self-concepts can be developed by how other people perceived us and react to our effort. It means when they group / team, complete a task or when they finally manage to overcome challenges other significant people are actually acknowledging the effort that have been invested. By maintaining certain amount of challenge in a task, it can facilitate the development of individual self-concepts. When youth manage to win a challenge this will initiate their inner drive to overcome harder or more complex challenges.

Youth will learn multiple aspects of communication when being involved in any activities or in organizing events. They have to learn to communicate both verbally and in

written. The oral communication can be in various forms such as giving clear instructions, receiving instructions and effectively transmitting information. Youth sometimes need to give pep-talk to motivate the team member and sometimes to advise them. Communications also involve listening to other people ideas and opinion and later learn to stand by their principles. They will also learn the formation of relationship with group members while adult leaders furnishes youth with valuable social capital (Youniss, Yates, & Su, 1997).

Decision making and risk taking must be allowed to a certain degree in order to propel youth confidence level. Youth will carefully plan their strategies to minimize risk and to avoid failure. This does not mean failure is a bad thing. Failures also mean knowledge transference where they can reevaluate and rectify accordingly. In sport activities youth will be awake, alive and open to developmental experience and guidance from proper instructor or trainer (Larson, 2000). The youth way of thinking also shifting when youth strategizing a plan, directing and regulating their activities. They chose different mode of action that they never use when they are alone or when they are not involved in such activities. Along with the new way of thinking, youth are reported to feel more self-efficacious, more confident in their ability to affect the world (Heath, 1997).

Physical structured activities such as sports have other added value. Involvement in physical exercise can make students as part of successful team and changing their roles from passive to interactive. Sporting activities create atmosphere that enhance the ability to meet fitness and skills goals and will increase self-confidence. Mastering physical challenges and receiving positive feedback from teammate provide self-confidence and encourage them to try tougher challenges. (Glover & Midura, 1995). It also imports physical fitness that can increase productivity, decrease delinquent behavior and health care cost. When athletes are satisfied with themselves they tend to show higher level of well being, motivation and self-esteem (Kozub & Button, 2000).

Physical structured activities provide a sense of real achievement and will create real self-congruence because youth have exerted their physical strengths and combine it with mental strategy to achieve the outcome. Youth also have to work together with the rest of the team member in synchronizing their tactics. Thus, sometimes physical achievement is more real to them than non-physical achievement. Being competitive in nature, sports and other physical activities demand discipline, good sportsmanship, acceptance of values and total commitment from the entire participants. As a result, it will sharpen youth sense of self-competencies, interpersonal relationship, vocational development, coping skills and personal grooming among others. Physical activities and sports have tremendous potential to enhance adolescent self-esteem and motivation (Jeziorski, 1994).

Parker (2000) believes that constructing a well planned structured program must take several issues into careful consideration. She describes that youth programs should emphasize on youth, where we have to stop blaming them and start to focus on the pathology of their problems and behaviors. Program should also focus on their potential rather than putting the same thing that they are not interested or trying to avoid in the first place, i.e a program that cater to their need not what they want. Program should also focus on the learning experience and the outcome. The experience that they feel can be related to the emotional environment that the youth will be dealing with outside the program. Program should focus on skills that will be really useful to them and what they are going to experience directly. What they receive is something that is practical and can be utilized immediately after completing the program.

Learning is a never ending process and it can be messy and unpredictable. Parker also stresses the value of empowerment where it helps youth to actively gain control over their own life while collaborating with each other to achieve their goals. The youth should focus on the circumstances and the effect rather than the content. It's a concept of looking at youth as a whole body, mind and soul for example teaching the concept of honesty,

what it means and how it is practiced in real life.

Research Methodology

The research instrument was adapted from the original Self-Description Questionnaire III, design by SELF Research Center of University of Western Sydney, Australia. It was developed for Australian university students and young adults. The test originally measuring 13 factors but for this research, it utilizes only 5 interrelated factors which are 'physical appearance', 'general esteem', 'physical abilities', 'general academic' and 'verbal abilities' that are more suitable for the local sample. 'Physical appearance' factors will cover the rating of physical attractiveness, how appearance compares with other and how others think they look. In 'general esteem', we intend to know about the rating of effectiveness, capability with individuals who are proud and satisfied with the way they are. 'Physical abilities' are factors that will measure youth skills and interest in sports, games and physical activities. 'General academic' will cover the rating of general academic skills and ability and 'verbal' factors will measure the skills and ability in English and reading.

The research identified the subjects as undergraduate IT and Engineering students male and female varying from junior to final years. They are divided by those have involved in any sports program and those who has never involved in any sports activities whether as a participant, committee or organizer The research gather 244 students. After collecting the survey we will monitor through club and society advisors and physical trainers regarding any positive behavioral differences coming out from our sample group.

Data Analysis

T-Test Group Statistics

	CURRICUL	N	Mean	Std. Deviation	Sig. (2-tailed)
OVERALL	taken sports	104	4.6921	.59304	0.475
	not taken sports	140	4.7475	.60103	0.474

The survey indicated that both groups showed almost the same amount of significant level in the 2 tailed t test where taken group have the significant level of 0.475 while the not taken group 0.474. It showed that both of the group are not significant compared to the alpha $\alpha = 0.05$.

However, the numbers represent only to some extend of the motivation and self-esteem being measured. There other extraneous variables and influential factors that we must considered when measuring human being. The result that represents the sample does not exactly explaining the real condition or level of motivation of the group or each individual person involve in this research. Having two different background (IT student and engineering student) also indicating a different level of self esteem interpretation.

The entire sample is not psychology degree base, thus the research only measures the basic understanding of motivation and self-esteem through the five clusters in the SDQ III survey instrument which are verbal abilities, academic abilities, physical abilities, and physical look. The research also refines the five major factors into three, where ‘physical ability’ and ‘physical look’ are combine into ‘physical confidence’, ‘verbal ability’ and ‘general academic’ are combine in ‘academic confidence’ while general self esteem remain independent. The chart below indicating that the non taken sport group have more self esteem by 58 % while the taken sport group have only 42 %. (Figure 1.1)

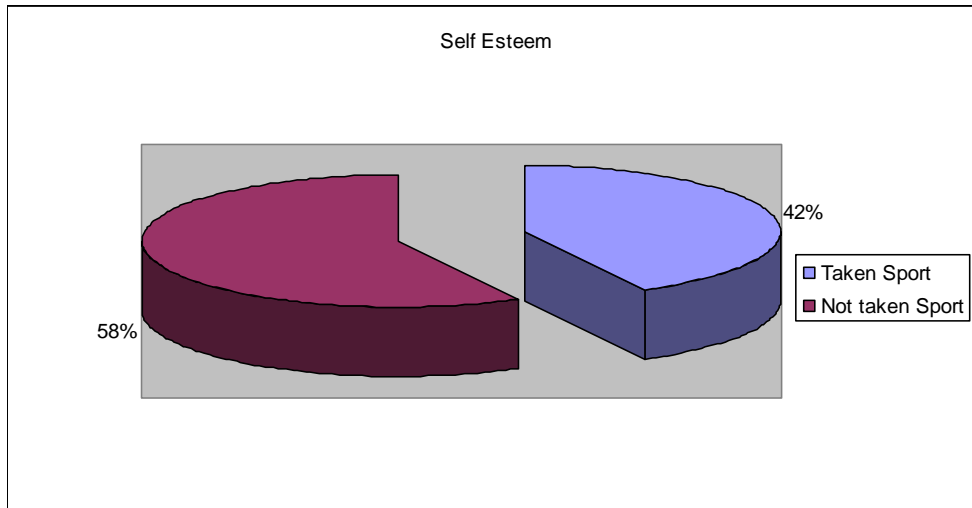


Figure 1.1.

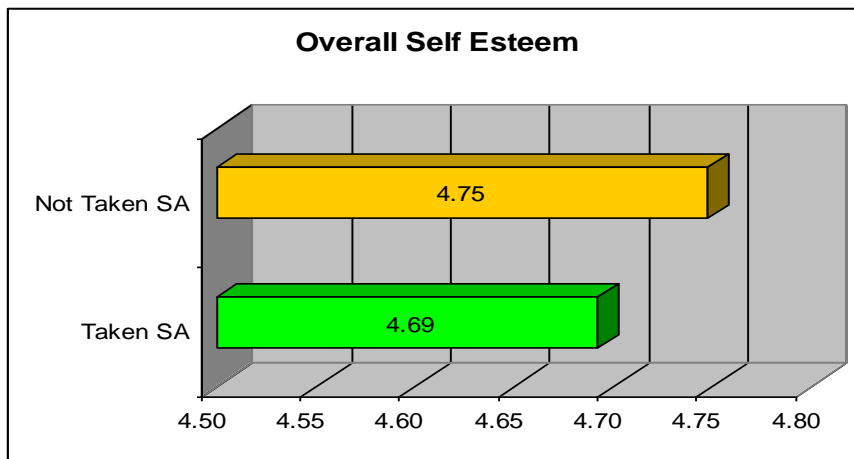


Figure 1.2.

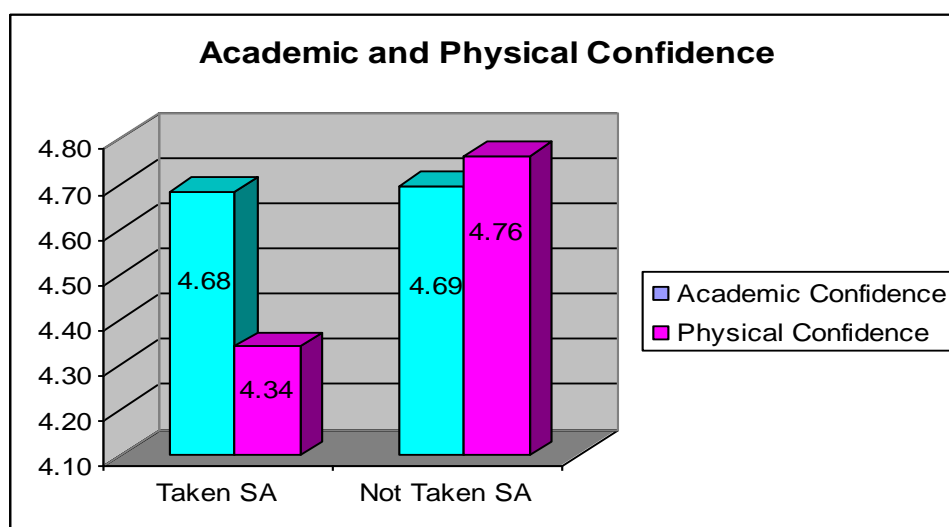


Figure 1.3.

After comparing the mean of three major cluster of our overall group survey we found: (refer to graphic Figure 1.2. and Figure 1.3.)

Self-esteem level in those who are not involved in sport activity is higher and so is the level of confidence in physical appearance. This may be due to the group that has already high level of self-esteem and confidence and thus putting their interest in other extra-curricular activities.

On the other hand students that enroll in sport activities may do so to improve their physical body image. In academic confidence, students having no experience in sports activities again shows more confident in academic area compare to the taken.

Discussion

From the three major variables we find that structured activities do not have any increase in numerical perspective, however looking at the student it self, showing different behavior pattern:

Although the result was insignificant, 'General Self-Esteem' factors of the taken group indicates level of confidence in communicating with other people, organizing the program and managing other administrative issues. Their 'academic confidence' were observed during activities, when they manage to voice out more practical ideas to find solution for any problem arises. Their confidence in 'Physical appearance' also sore when the students gave more attention to their body build, appearance and groomed themselves when appear in public.

Students with sport activities also have their self-esteem, they might want to sustain their self-esteem by taking physical activities in UNITEN so that they will have a good, enriching and balance life. One of the reasons we think that might contribute to the insignificant result is that the culture of research and answering questionnaire is something that the students was not really used to. Although they were asked to enroll in sporting activity or any other physical activity rather than volunteering, certain degree of

motivation and commitment can be observed while their at the task which mean giving the written feed back some time different with what they really do in practice.

The initial research result was also presented at Teluk Danga International Sports Conference in February 2008, several weaknesses and suggestion was identified from this research. One of the main concerns was the instrument used when evaluating the level of motivation in the students. The previous research used Self Description Questionnaire 3 (SDQIII) designed by University of West Sydney with more than 50 items to be completed with 8 Likert scale responses. Although the tool is very descriptive and detail in asking question about motivation and self-esteem level, it is accidentally tiring and bore the students. The language of the tool also becomes one of the hindrances even though the medium of teaching in UNITEN is in English. Another issues contributing to the problematic result of the research is the non-sport majoring student also making it more unreal for the researcher to compare the effectiveness of sport activities in boosting student motivation and increasing student self-esteem.

Thus, the researcher decided to conduct another survey of evaluation to a bigger population and this time including student from Sports Science majoring program from University of Malaya as participant and research subject as well. The justification of expanding it to a public university with program in sports is to identify the real amount of motivation within the student of sports major and those who is not sports major. The research used Rosenberg Self-Esteem Scale developed in 1965. It is a 10 simple question items with only 4 Likert Scale responses (see appendix). The researcher only add the word sport or sport activities in item number 3, 4 , 6, 7 and 9 as to relate to the topic of interest. The responses are categorized as a simple 1 (Strongly Agree), 2 (Agree), 3 (Disagree) and 4 (Strongly Disagree). By using this survey tool the researcher observe that complete survey form return and usable result was higher than the pilot study. The survey tool was distributed to equal sets of 200 for UNITEN and University of Malaya. The sample

collected in total are 258 with UNITEN and University Malaya contributed 133 set and 125 sets respectively.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	UNITEN	133	51.6	51.6	51.6
	UM	125	48.4	48.4	100.0
	Total	258	100.0	100.0	

Figure 1.4. INSTITUT

The research also widen the area of study by observing result between three major program which are Engineering program and non-engineering program of UNITEN and Sports Science program from University of Malaya. Demographics data showed that UNITEN sample is a combination of engineering and IT student while the other half was sample collected from Sports Science program alone. Additional demographic information is that the majority of this survey population is male with 63.9 % compared to female with only 36 %.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Engineering	55	21.3	21.3	21.3
	Non-Engineering	77	29.8	29.8	51.2
	Sport Science	126	48.8	48.8	100.0
	Total	258	100.0	100.0	

Figure 1.5. COURSE

ANALYSIS BETWEEN INSTITUTE

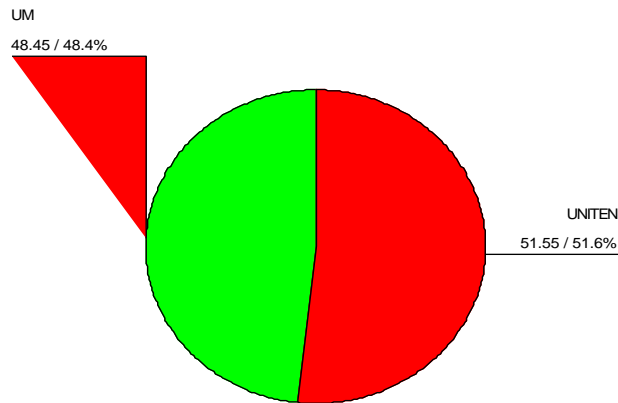


Figure 1.6.

ANALYSIS BETWEEN GENDER

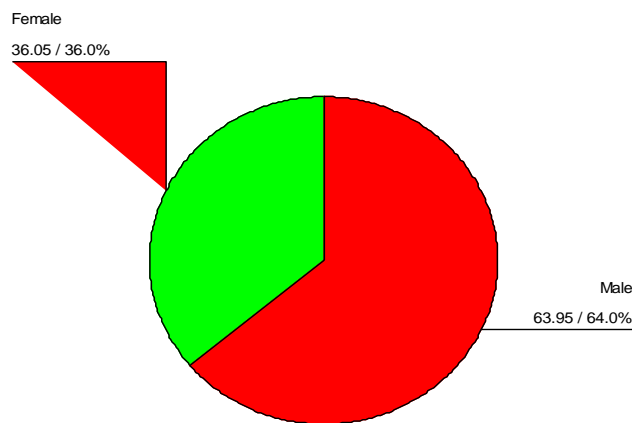


Figure 1.7.

The research also looks into the distribution of sample in years of studies. The sample contributor is mainly from students in second year with 125 samples, followed by first year with 111 samples and third year with just 22 samples.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Year 1	111	43.0	43.0	43.0
	Year 2	125	48.4	48.4	91.5
	Year 3	22	8.5	8.5	100.0
	Total	258	100.0	100.0	

Figure 1.8. YEAR

The research also performed Independent T-Test analysis to see the mean between the demographics entities studied. The degree of mean show how much of the score of the research sample is supporting the research question. The higher the mean, the more it is in agreement with the research.

Group	N	Mean
Male	165	2.166
Female	93	2.206

Figure 1.9. Independent T-Test Analysis Between Gender

Comparing between the two genders, interesting result occurs when female with lesser amount of this research participation show higher scores of mean. This might indicate that female have better mastery of sport activities or have better understanding of the survey tools. It also may point to a situation where female student is more health conscious and serious about their involvement. Female student may also utilize the condition during sport activities as mean to learn to socialize and build their confidence while male student might feel that they have more confidence and able to gain the confidence out side sport activities or program. Another interesting finding is when the researcher analyzes between years of studies. Out of all the sample population, first year students indicate the highest mean score.

Average	N	Mean
Year 1	111	2.23
Year 2	125	2.14
Year 3	22	2.13

Figure 1.10. ANOVA Analysis between years of studies

The researcher also find out that first year student form both the institution have higher mean which may point out that first year student have lesser work load therefore they have more time to involved in sporting activities. For UNITEN students they may not

register their core course yet, thus they are only allowed to take other electives courses such as sport and curriculum. First year student also show more enthusiast, inquisitive and explorative nature thus projecting the positive attitude towards sport activities. Analyzing between selected items however, show some mix result and responses. Some items mean scores indicate UNITEN students have higher points where UM students are expected to perform better, while the other items showed UM students fair more than UNITEN students. This analysis is where the researcher think most interesting and may be useful for future research and conduct more in-depth studies between UNITEN and UM.

Analysis of selected item in t-test differences in mean between institutions

UNITEN	1.87
UM	1.60

Figure 1.11. Item no. 1: Overall, I am satisfied with my self

UNITEN	2.09
UM	1.97

Figure 1.12. Item no. 3: I feel that I have number of good qualities in sport

UNITEN	2.20
UM	1.85

Figure 1.13. Item no. 4: I am able to do things as well as most people in sport area

UNITEN	2.16
UM	1.97

Figure 1.14. Item no. 7: I feel that I am a valuable person and equal with others in sport activities

UNITEN	1.61
UM	1.68

Figure 1.15. Item no. 10: I take positive attitude towards my self

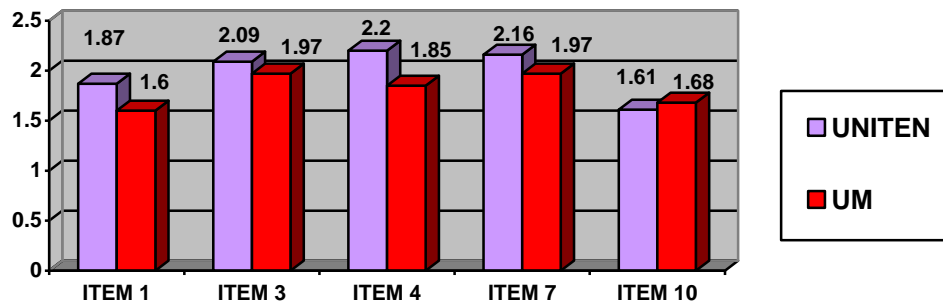


Figure 1.16. Analysis of selected item in t-test differences in mean between institutions

It is quite alarming to see the mean score for the selected item specifically item number 1, 3, 4 and 7 where University of Malaya student frequencies are much lower than UNITEN student. This result indicates that UNITEN students have more motivation and confidence in sport area and activity compared to the sports science major. However, for item number 10, the UM sample population have higher motivation and self-esteem in overall positive attitude toward themselves. This may be attributed to the general self-esteem owned by the public university student with out the need of other driving factor. Public university enrolment from early on emphasizing on the selected few and those who are excellent both in academic and extra-curricular activities may also become one of the main reason for UM student high score in overall self-esteem.

Conversely, two analyses fulfill the prediction of the research where the public institution compared have higher mean than UNITEN. This may due to the Sport Science major students which are predicted to have higher motivation and better self-esteem overall. The students in average also showing higher mean scores than UNITEN students although item by item analysis show some items are not responded as expected by the sports major students.

Group	N	Mean
UNITEN	132	2.13
UM	126	2.22

Figure 1.17. Independent T-Test Analysis Between Institution

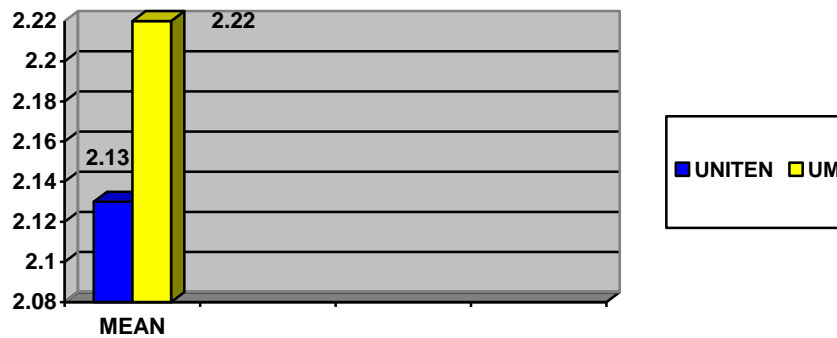


Figure 1.18.

Average	N	Mean
Engineering	55	2.14
Non-Engine	77	2.12
Sport Sc.	126	2.22

Figure 1.19. ANOVA Analysis between courses

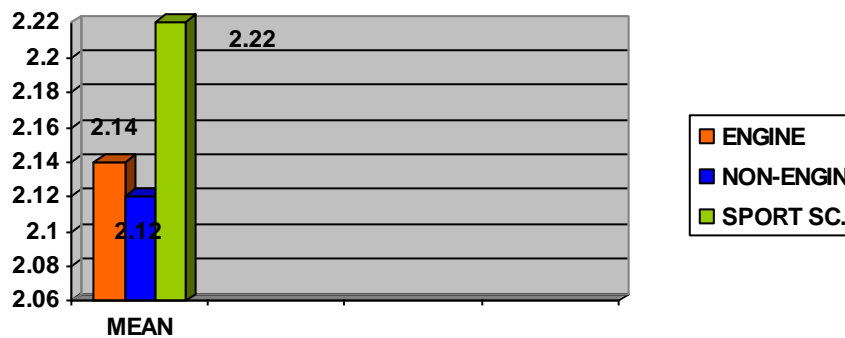


Figure 1.20.

The mean score obtained for both institution and course of studies show that University of Malaya’s students who have significantly higher mean overall compared to UNITEN students, which again supporting the research question of sports activities contribute in student motivation and increase of self esteem. Analysis result of 2 tailed independent t-test on item number 7 and number 1 when compare between the two institutions also indicate a significant different which again supporting the research where

alpha α 0.05 is able to reject the f values of 0.01 and 0.001.

F	Sig	t	df	Sig. f	α
11.373	0.001	2.562	256	0.01	0.05

Figure 1.21. Item no. 7: I feel that I am a valuable person and equal with others in sport area (Between Institution)

F	Sig	t	df	Sig. f	α
5.81	0.017	3.49	256	0.001	0.05

Figure 1.22. Item no. 1: Overall I am satisfied with my self (Between Institution)

Although both surveys showed very different and at some point contradictory result, it still support the research question of student involvement in sport activities does increase their level of motivation that eventually lead to the boost of student's overall self esteem. The interesting findings between both institutions mean scores on selected item also indicate UNITEN students have higher confidence and mastery in their sports game and activities. This unusual finding will be communicated with the coordinator in Sport Center in UM which is also a co-researcher in this research paper.

The research also gathered information and feedback from the few course instructor in UNITEN and UM. Two of experienced sports subject instructor agrees that student involved in sports subject and activities show higher level of physical fitness and self-esteem as they show higher confidence in interaction and communication which agrees with the research objectives of sport activities have influence in increasing student overall health. The instructor also add that to be able to perform or becoming an athlete, one must have high confidence of self ability before they can perform in any sporting event, therefore this also can be apply in student daily life.

Another physical instructor observed the level of commitment and discipline of the student also changes when he observed newly enrolled student personality up to the end of their first semester. The student show more discipline and higher level of respect and stay out of social problem while they are enrolled in sport and extra curricular subject during the foundation semester. He cautioned however, that to maintain this state, the program should be continued and the student should be monitored. This again agrees with the research question of involvement in sport activities can reduce delinquency risk.

The finding suggests that:

1. Sport and physical activities are offered as one of the main course / subject rather than as an optional or elective subject.
2. Offer such activities / subject in every semester and considered at least as 1 credit hour.
3. Expose students with sport and physical activities through exhibition, workshop, seminar, conference and other method as well.
4. Conducted real sport activities which have genuine humanities values eg. Friendly games, international tournament for social benefits.
5. Make involvement in sport and physical activities as one of the requirement in conferring first class honor degree.

Even though this is only a small survey to our own UNITEN population with comparison to a small number of Sport Science program students of University Malaya, we can predict to certain extend, the impact of students involvement in sport activities whether during academics years and beyond college period. We hope that more researches will be done in the future in order to give better understanding regarding this subject. Having said that, the research still believes that sport has very important roles in increasing students level of motivation and overall self-esteem. Thus, few suggestions might be useful for future research.

1. To conduct the research only on one college at a time i.e all IT student and focuses on those who have taken any sport or extra-curricular subject / activity and compare the result.
2. To expand the research to the entire UNITEN population through research seeding fund and additional time.
3. To collaborate with other higher learning institute both public and private which offer sport or extra-curricular program.
4. To reevaluate the sports curriculum in UNITEN to ensure positive growth of student self-esteem.
5. To study the survey instrument used and carefully decide on the factors will be chosen.

Appendix:

**SDQ III INSTRUMENT ADAPTATION
SELF-DESCRIPTION QUESTIONNAIRE III
SELF Research Center, University of Western Sydney Australia**

All information supplied will be kept strictly confidential.

Group	
-------	--

Name :

Gender:

Age :

Year of study:

Course / Program:

Have attended any Subject from Physical Education and Recreation (Co-Curriculum subjects):

YES / NO

PLEASE READ THESE INSTRUCTION FIRST

This is not a test – there is no right or wrong answer

This is a chance for you to consider how you think and feel about your self. This is not a test and everyone will have different responses. The purpose of this study is to determine how people describe themselves and what characteristics are most important to them and how people feel about themselves.

On the following pages are series of statements that are more or less true (or more or less false) description of you. Please use this following eight-point response scale to indicate how true (or false) each item as a description of you. Respond to the item as you feel now even if you felt differently at some other time in your life. In a few instances, an item may no longer be appropriate to you, though it was at an earlier period of your life, e.g when you were in primary school, respond to the item as you would have when it was appropriate. Try to avoid leaving any item blank.

1	2	3	4	5	6	7	8
Definitely false	False	Mostly false	More False than true	More true than false	Mostly true	True	Definitely true

1	2	3	4	5	6	7	8
Definitely false	False	Mostly false	More False than true	More true than false	Mostly true	True	Definitely true

- | | |
|--|--------------------------|
| 1. I enjoy doing work for most academic project | <input type="checkbox"/> |
| 2. I have trouble expressing myself when trying to write something. | <input type="checkbox"/> |
| 3. I am a good athlete. | <input type="checkbox"/> |
| 4. I have physically attractive body. | <input type="checkbox"/> |
| 5. Generally I lack self confidence. | <input type="checkbox"/> |
| 6. I can write effectively. | <input type="checkbox"/> |
| 7. I hate studying for many academics subjects. | <input type="checkbox"/> |
| 8. I am awkward and poorly coordinated at many sports and physical activities. | <input type="checkbox"/> |
| 9. I am ugly. | <input type="checkbox"/> |
| 10. Overall I have a lot of respect for my self. | <input type="checkbox"/> |
| 11. I have poor vocabulary. | <input type="checkbox"/> |
| 12. I like most academic subjects. | <input type="checkbox"/> |
| 13. I have a good endurance and stamina in sports and physical activities. | <input type="checkbox"/> |
| 14. I have a good body build. | <input type="checkbox"/> |
| 15. Honestly I am pretty accepting myself. | <input type="checkbox"/> |
| 16. I am an avid reader. | <input type="checkbox"/> |
| 17. I have trouble with most academic subjects. | <input type="checkbox"/> |
| 18. I hate sports and physical activities. | <input type="checkbox"/> |
| 19. There are lots of things about the way I look that I would like to change. | <input type="checkbox"/> |
| 20. I don't have much respect for my self. | <input type="checkbox"/> |

1	2	3	4	5	6	7	8
Definitely false	False	Mostly false	More False than true	More true than false	Mostly true	True	Definitely true

- | | |
|--|--------------------------|
| 21. I do not do well on test that require a lot of verbal reasoning ability. | <input type="checkbox"/> |
| 22. I am good at most academic subjects. | <input type="checkbox"/> |
| 23. I have high energy level in sports and physical activities. | <input type="checkbox"/> |
| 24. My body weight is about right (neither too fat nor too skinny). | <input type="checkbox"/> |
| 25. I have lots of self confidents. | <input type="checkbox"/> |
| 26. Relative to most people my verbal skills are quite good. | <input type="checkbox"/> |
| 27. I am not particularly interested in most academic subjects. | <input type="checkbox"/> |
| 28. I am not very good at any activities that require physical ability and coordination. | <input type="checkbox"/> |
| 29. I dislike the way I look. | <input type="checkbox"/> |
| 30. I have a very good self concept. | <input type="checkbox"/> |
| 31. I often have to read things several times before I understand them. | <input type="checkbox"/> |
| 32. I learn quickly in most academic subjects. | <input type="checkbox"/> |
| 33. I like to exercise vigorously at sports or physical activities. | <input type="checkbox"/> |
| 34. I have nice facial features. | <input type="checkbox"/> |
| 35. Nothing that I do is important. | <input type="checkbox"/> |
| 36. I am good at expressing my self. | <input type="checkbox"/> |
| 37. I learn quickly in most academic subject. | <input type="checkbox"/> |
| 38. I am poor at most sports and physical activities. | <input type="checkbox"/> |
| 39. I wish that I were physically more attractive. | <input type="checkbox"/> |
| 40. I have a pretty positive feeling about my self. | <input type="checkbox"/> |

1	2	3	4	5	6	7	8
Definitely false	False	Mostly false	More False than true	More true than false	Mostly true	True	Definitely true

- 41. In school I had more trouble learning to read than most students.
- 42. I hate most academic subjects.
- 43. I enjoy sports and physical activities.
- 44. Most of my friends are better looking than I am.
- 45. I have very poor self concepts.
- 46. I have good reading comprehension.
- 47. I get good marks in most academic subjects.
- 48. I am very sedentary type who avoids strenuous activity.
- 49. I am good looking.
- 50. I have a very poor self concept.
- 51. I could never achieve academic honors even if I worked harder.
- 52. I have pretty negative feelings about my self.
- 53. I do lots of things that are important.
- 54. Overall I am not very accepting of my self.

Thank you for your time.

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

The scale is ten item Likert scales with items answered on a four point scale – from strongly agree to strongly disagree. The original sample for which the scale was developed consisted of 5,024 High School Juniors and Seniors from 10 randomly selected schools in New York State.

Instruction : Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle **SA**. If you agree with the statement, circle **A**. If you disagree, circle **D**. If you strongly disagree, circle **SD**.

- | | | | | | |
|-----|--|----|---|---|----|
| 1. | On the whole, I am satisfied with myself. | SA | A | D | SD |
| 2.* | At times, I think I am no good at all. | SA | A | D | SD |
| 3. | I feel that I have a number of good qualities. | SA | A | D | SD |
| 4. | I am able to do things as well as most other people. | SA | A | D | SD |
| 5.* | I feel I do not have much to be proud of. | SA | A | D | SD |
| 6.* | I certainly feel useless at times. | SA | A | D | SD |
| 7. | I feel that I'm a person of worth, at least on an equal plane with others. | SA | A | D | SD |
| 8.* | I wish I could have more respect for my self. | SA | A | D | SD |
| 9.* | All in all, I am inclined to feel that I am a failure. | SA | A | D | SD |
| 10. | I take a positive attitude toward myself. | SA | A | D | SD |

Scoring : SA=3, A=2, D=1,SD=0. Items with an asterisk are reverse scored, that is, SA=0,A=1,D=2, SD=3. Sum the scores for the 10 items. The higher the score, the higher the self esteem.

The scale may be used with out explicit permission. The author's family, however, would like to be kept informed of its use:

The Morris Rosenberg Foundation
 c/o Department of Sociology
 University of Maryland
 2112 Art/Soc Building
 College Park, MD 20742-1315

Self-Esteem Scale

Instruction:

Below is a list of statement dealing with your feeling about your involvement in sport activities.

If you strongly agree, circle SA. If you agree with the statement, circle A. If you disagree, circle D. If you strongly disagree, circle SD.

Course:

Class:

Year:

Gender: M / F

No.	Item	Rating	
1.	Overall, I am satisfied with my self.	SA D	A SD
2.	Sometime, I think I am no good at all.	SA D	A SD
3.	I feel that I have number of good qualities in sport.	SA D	A SD
4.	I am able to do things as well as most people in sport.	SA D	A SD
5.	I feel I do not have much to be proud.	SA D	A SD
6.	I certainly feel useless in sport.	SA D	A SD
7.	I feel that I am a valuable person and equal with others in sport area.	SA D	A SD
8.	I wish I could have more respect for my self.	SA D	A SD
9.	All in all, I prone to feel that I am a failure in sport activities.	SA D	A SD
10.	I take a positive attitude towards my self.	SA D	A SD

Adaptation from Rosenberg Self-Esteem Scale (Rosenberg, 1965)

** Thank you for participating in this research**

References

- Abdullah Hasaan & Ainon Ahmad, (1997). *Daya Pengaruh dan Perubahan Sikap*. Utusan Publication & Distribution Sdn Bhd.
- Allan, John, (1996). *How To Be Better At Motivating People*. The Industrial Societies.
- Atan, Long, (1982). *Psikologi Pendidikan*. Dewan Bahasa dan Pustaka.
- Atkinson & Jean, *Developing Team Through Project-Based Learning*. Grower Pub. Co.
- Bakker, F. C., Whiting, H. T. A. & Van Den Berg, H. (1995). *Sport Psychology, Concepts and Applications*. John Wiley and Sons.
- Beck, Robert, C. (2004). *Motivation: Theories & Principles, 5th ed.* Upper Saddle River: Pearson/Prentice Hall.
- Berger, Charles R. *Attribution Communication, Situational Involvement, Self-Esteem and Interpersonal Attraction, Journal of Communication*, (pre-1986), New York, September 1973, Vol. 23, Iss 3; p. 284, 22 pages.
- Bull, S. J. (1991). *Sport Psychology, A Self-Help Guide*. The Crowood Press.
- Cairo, Jim, (1997). *Motivation And Goal Setting*. Aldershot: Gower Pub. Co.
- Caja, E. F., & Weiss, M. R. (2000). Predictors of Intrinsic Motivation Among Adolescent Student in Physical Education. *Research Quarterly for Exercise and Sport* © 2000 by the American

Alliance of Health, Physical Education, Recreation and Dance, Vol. 71, No. 3, p 267-279.

<http://psicdesp.no.sapo.pt/mot/12.pdf>

Caldwell, L. L., & Baldwin, C. K., Walls, T. & Smith, E. (2004). Preliminary Effect of A Leisure Education Program To Promote Healthy Use of Free Time Among Middle School Adolescent. *Journal of Leisure Research*, Vol. 36, No. 3, pp 310-335.

<http://www.personal.psu.edu/faculty/1/1/llc7/preliminary%20Evidence%0PDF.pdf>

Chan, Gilad, Gully, S.M. *General Self-Efficacy, in Self-Esteem; Towards Theoretical and Empirical Distribution Between Correlated Self-Evaluation*, *Journal of Organizational Behavior*, Chichester, May 2004, Vol. 25, Iss3; p. 375.

Cotton, Julie, (1995). *The Theory of Learning: An Introduction*. London : Philadelphia: Kogan Page.

Deckers, Lambert, (2001). *Motivation: Biological, Psychological and Environmental*. Boston: Allyn & Bacon.

Dornyei, Zoltan, (2001). *Teaching and Researching Motivation*. London: Longman.

Drever, Prue, (Feb, 2002). ed. *Self-Esteem Through Sport*- In-Psych Magazine.

http://www.bluearth.org/articles_drever.cfm

Edward, Peggy. *Self-Esteem, Sport and Physical Activities*, Canadian Association for the Advancement of Women and Sport and Physical Activities (CAAWS)

<http://www.caaws.ca/e/archives/articles.cfm?id=245&search=esteem>

Frankern, Robert E, (1998). *Human Motivation, 4th Ed.* Pacific Grove. California: Brooks/Cole Publishing Company.

Frankern, Robert E, (2002). *Human Motivation, 5th Ed.* Wadsworth Thomson Learning.

Glover, D. K., & Midura, D.W. (1992). *Team Building Through Physical Challenge.* Human Kinetics.

Grifford, D. *The Correlation between Extracurricular Activities, G.P.A and Self-Esteem*-Department of Psychology-Missouri Western University
(<http://clearinghouse.missouriwestern.edu/manuscript/11.asp?logon=&code=>)

Hellison, D., & Cutforth, N. (2000). *Youth Development and Physical Activities Linking University and Communities.* Human Kinetics.

Kraus, R. (1997). *Recreation Program—A Benefits—Driven Approach.* Allyn Bacon.

Kroehnert, Gary. (1996). *100 Training Games.* McGraw—Hill Book Co.

Larson, Reed. (Jan, 2000). *Towards a Psychology of Positive Youth Development University of Illinois, American Psychologist Journal.* Copyright 2000 Vol. 55 No. 1 p. 170-183.

Lee Kwan Meng. (2000). *Sukan, Rekreasi dan Pelancongan Pada Alaf Akan Datang*, edited in *Pengurusan Sukan Dalam Pelbagai Perspektif.* Megat Ahmad Kamaludin Megat Daud & Wirdati Mohd Radzi, Eduright Research & Education Management Sdn. Bhd.

Leunes, A., & Nation, J. R. (2000). *Sport Psychology, 3rd Ed.* Wadsworth Thomson Learning.

Martens, R. (2001), *Directing Youth Sports Programs, American Sport Education Program,*
Human Kinetics.

Martin, M. L. *Involvement in College Clubs and Organizations and Its Relationship to Academic Performance.* Department of Psychology, Missouri Western State College.

Maslow, Abraham H., (1970), *Motivation And Personality, 2nd Ed.,* New York Harper.

Mcsweeney, J. R., Earnest, A., & Phillips, Ervin. *Effects of Exercise on Self-Esteem-Psychology.*

Missouri Western State University.

<http://clearinghouse.missouriwestern.edu/manuscripts/18.asp?logon=&code=>

Midura, D.W., & Glover, D. K. (1995). *More Team Building Through Physical Challenge.* Human
Kinetics.

Montgomery, Bob, (1988). *The Truth About Success And Motivation: Advice On How To Be One
Of Life's Winners.* Wellingborough: Thorson.

Morris, K. T., & Cinnamon, K. M. (1979). *A Hand Book of Verbal Group Exercise,* Applied
Skills Press.

Mouratidis, A., Vansteenkiste, M., Lens, W. & Sideridis, G. (2008). *The Motivating Role of
Positive Feedback in Sport and Physical Education : Evidence for A Motivational Model.*

Journal of Sport & Exercise Psychology, Vol. 30, pp 240-268 © 2008, Human Kinetics Inc.

http://www.psych.rochester.edu/SDT/document/2008_MouratadisVansteenkisteEtAl_JSEP.pdf

Myers, David, G. (2002). *Social Psychology* 7th. Edition Mcgraw Hill.

Nelson, C. *Exercise: Its Effects on Self-Esteem, Motivation & Well Being*-Motivation Humans (01.1386) Department of Psychology Carleton University.

<http://www.chat.carleton.ca/~cnelson/exercise&self-esteem.html/>

Ormond, Jeanne, Ellis, (2003). *Educational Psychology-Developing Learners*, 4th Ed. Merrill Prentice Hall.

Pintrich, R. Paul, (2002). *Motivation in Education, Theory, Research and Application*, 2nd Ed. Upper Saddle River : Merrill Prentice Hall.

Physical Education Gives Children Higher self-Esteem (<http://www.news-medical.net/?id=2467>)

Ritche, Shiela, (1999). *Motivation Management*. Aldershot : Gower Pub. Co.

Salhah Abdullah, (2005). *Guru Sebagai Fasilitator*, PTS Profesional.

Sheikh Paiman Salleh, (1990). *Falsafah Matlamat Hidup, Siri Motivasi Ummah*, Jilid Pusat Motivasi Kerjaya.

Stipeck, Deborah, (2002). *Motivation To Learn: Integrating Theory And Practice*, 4th Ed. Boston:

Allyn and Bacon.

Sung Joon Jang, Thouberry T. P. *Self-Esteem, Delinquent Peers and Delinquency: A Test of The Self-Enhancement Thesis*. *Journal of American Sociology Review*, Albany, August 1998, Vol. 63, Iss 4 : pg 586, 13 pages.

Tjosvold, Dean, (1995). *Psychology of Leaders: Using Motivation, Conflict and Power To Manage More Effectively*. New York: J Wiley.

Vernon, M.D. (1969). *Human Motivation*. London : Cambridge University Press.

Warren, William E. (2002). *Coaching Motivation: A Practical Guide To Maximum Athletic Performance*, Spring City. PA : Reedswn Publishing.

Whetten, David A. (1991). *Effective Motivation*. London : Herper Collins.

William, A Simpson, (1989). *Motivation*, 2nd Ed. Industrial Society.

Wlodkowski, Raymond J. (1999). *Enhancing Adult Motivation To Learn: A Comprehensive Guide For Teaching All Adults*, Rev. Ed., San Francisco: Jossey-Bass.

Review members

Chief editor

Dr. Yeh, Kong-Ting

Professor and Dean

Department of Leisure and Recreation and Industry
Management, College of Management,
National Taiwan Sport University.

Chairman

Taiwan Society for Sport Management

Education

University of Northern Colorado School of Kinesiology ,
and Physical Education U.S.A. (Ed.D., 1997)

Research interests

- Economics, sports economics
- sports tournament management, sports facility management
- sports and leisure marketing management
- corporate sponsorship and fundraising, sports and leisure industry research
- non-profit organization management,

Teaching

- Sport Marketing
- Sport Economics
- sports tournament management, sports and leisure marketing management
- sports facility management
- sports tournament management

Contact information

- **Address:** Department of Recreation and Leisure Industry Management
National Taiwan Sport University 250, Wen Hua 1st Rd., Kueishan, Taoyuan
County, Taiwan.
- **Phone:** +886-3-3283201 ext 8605 (O)
- **E-mail:** tingpower@gmail.com



Dr. Galsan-Yondon Sukhbat- Mongolia

Professor

Executive director ‘Avarga ‘Physical Education Institute
Professor Health Sciences Medical University, Mongolia
Executive member of International Academy of Science
(in the Russian Section)



Education

P.K. Anokhin Institute of Normal Physiology
Russian Academy of Medical Sciences (Ph.D., 1986)

Academic experience

- Vice President of AASM (2005- 2008)
- Vice President of MASM (since 2004)
- Vice president of National Olympic Academy, Mongolia (since 2005)

Research interests

- Human Physiology
- Emotional stress
- Health education
- Sports physiology and management

E-mail : su51bat@yahoo.com

Dr. Lee, Hao-Chieh- China

Associate Professor

School of Sport Economics and Management
Guangzhou Sports College

Education

Sport Management, Beijing Sport University, China (PhD, 2004)
Sport Management, National College of P.E. & Sport, Taiwan
(M.P.E., 1999)



Teaching

- Sport management, sport science, principle of sport and research methodology at Central University of Finance and Economics.
- Athletic Training and Therapy at Beijing Sport University.
- Research Advisors for Graduate Students in the area of Sport Management of Central University of Finance and Economics.

Contact information

- **Address:** School of Sport Economics and Management, Central University of Finance and Economics, No. 39, South College rd, Beijing, 100081, China
- **Phone & Fax:** +86-10-62288461 (O)
- **MSN Messenger & E-mail:** taiwanat@hotmail.com

Dr. Cho Kwang-Min- Korea

Professor

Department of Sport and Leisure Studies
College of Sciences in Education, Yonsei University, Seoul

Vice President

Secretary General, Korean Society for Sport Management

Education

University of Northern Colorado, School of Kinesiology , and
Physical Education U.S.A. (Ph.D., 1997)



Teaching

- Sport Marketing (undergraduate and graduate level)
- Sport Management (undergraduate and graduate level)
- Taekwondo (undergraduate level)
- Self Defence (undergraduate level)

Contact information

- **Address:** Department of Sport and Leisure Studies, Yonsei University 134
Shinchon-Dong, Sudaemun-Gu, Seoul, Korea 120-749
- **Phone:** +82-31-922-0220(H) +82-2-2123-3193(W) +82-2-363-5952(F)
- **E-mail:** kwang@yonsei.ac.kr

Dr. Megat Ahmad Kamaluddin- Malaysia

Assistant Professor

Department of Education Management, Planning and Policy
University of Malaya

E-mail: megatdaud@yahoo.com



Dr. Nilmanee Sriboon- Thailand

Present

Asia Association for Sport Management

Deputy President

Faculty of Science, Chandrakasem Rajabhat University,

Education

Sport Administration, Florida State University USA (PhD)

Teaching and Research Experience

- Instructor in the areas of sport management, sport businesses, and strategic management at Chandrakasem Rajabhat University, Kasetsart University, Bhurapa University, and Mahidol University.
- Sport Authority of Thailand Interpretator and research consultant in the area of sport management.
- Research Advisors for Graduate Students in the area of Sport Management of Chandrakasem Rajabhat University, Kasetsart University, and Bhurapa University.



Text Book

- Fundamental Teaching Tennis for Beginner Level
- Kinesiology

Contact information

- **Address:** Faculty of Science, Chandrakasem Rajabhat University, Rachadapisek rd. Chatuchuck, Bangkok, 10900, Thailand
- **Phone:** 084-0740707 (M) 082-5417837(O) 082-5423662 (H)
- **E-mail:** s_nilmanee@hotmail.com

Dr. Quang-Thanh Lam- Vietnam

Professor

HoChiMinh City University of Sport

E-mail: lamquangthanh@hcm.vnn.vn

Dr. Shi Lei-Hong Kong

Professor

University of Hong Kong

Teaching

- Economic and financial aspects of sport management
- Sport marketing
- Sport business

Research interests

- The measurement and evaluation of effectiveness of sport sponsorship and sport partnership via econometric and psychometric approaches
- Fan equity
- The valuation of sport properties and assets

E-mail: uconnstone@yahoo.com

Dr. Hirotaka Matsuoka - Japan

Professor

Faculty of Sport Studies, Sport Management
Biwako Seikei Sport College

Education

Sport Management (Ph.D., 2001)
The Ohio State University, Columbus, Ohio, USA

Research Interests

- Sport management
- Sport marketing
- Sport consumer behavior
- Sport sponsorship

Contact information

- Address: 1204 Kitahira, Otsu, Shiga, 520-0503, Japan
- Phone & Fax: +81-77-596-8475; matsuoka@bss.ac.jp



Dr. Mei-Yen Chen - Taiwan

Professor and Director

Department of Leisure and Recreation Industry
Management, College of Management,
National Taiwan Sport University.

Education

Sport Administration, (PhD)
University of Northern Colorado, USA

Areas of Specialization

- Sport Marketing & Management
- Sport Organizational Behavior
- Sport Consumer Behavior

Contact information

- **Address:** 250 Wen-Hua 1st Rd., Kueishan, Taoyuan, Taiwan
- **Phone:** +886-3283201 ext.8658
- **E-mail:** annencpes@gmail.com



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The Connecting information of the representatives

- | | | |
|---------------------|------------------------|--|
| 1. Taiwan | Kong-Ting Yeh | tingpower@gmail.com |
| 2. Mongolia | Galsan-Yondon Sukhbat | su51bat@yahoo.com |
| 3. China | Hao-Chieh Lee | taiwanat@hotmail.com |
| 4. Korea | Kwang-Min Cho | kwang@yonsei.ac.kr |
| 5. Malaysia | Megat Ahmad Kamaluddin | megatdaud@yahoo.com |
| 6. Thailand | Nilmanee Sriboon | s_nilmanee@hotmail.com |
| 7. Vietnam | Quang-Thanh Lam | lamquangthanh@hcm.vnn.vn |
| 8. Hong Kong | Shi Lei | uconnstone@yahoo.com |
| 9. Japan | Matsuoka Hiro | matsuoka@bss.ac.jp |
| 10. Taiwan | Mei-Yen, Chen | annencpes@gmail.com |

 **ASMR** *Edition Committee*

Coordinators: Mr. Alex Chou(Taiwan) < alex.yh.chou@gmail.com >
Mr. Kang, Cheng Nan (Taiwan) < kang@ntu.edu.tw >

Asian Sport Management Review

Volume 4 / Number 1 / 2011

Publisher: TASSM associated with AASM
Address: Zhiqing Building, Rm. 5211, No.16, Sec. 4, Jhongshan N. Rd., Shilin Dist.,
Taipei City 111, Taiwan (R.O.C.)
Tel: +886-2-886-1261 +886-2-886-1262
Fax: +886-2-886-1255
E-mail: tassm2000@gmail.com
Website: <http://www.tassm.org>

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