Welcome to the second issue of the new scholarly (peer-reviewed) research journal, the *ICHPER•SD Journal of Research*. This biannual journal serves the disciplines of Health, Physical Education, Recreation, Sport and Dance through the publication of meaningful, timely and relevant research articles pertaining to the academic disciplines of HPER•SD. The national and international scope and the breadth of its articles represent the complete spectrum of all areas of Health, Physical Education, Recreation, Sport and Dance.

As the editor of this relatively new scholarly journal, I invite my colleagues throughout the world to consider submitting articles in all areas related to health, physical education, adapted physical education, recreation, dance, human performance, sport, coaching, sports medicine, and sport management. *This journal remains international in scope in the sense that authors/researchers and topics can originate from any part of the world.*

The journal presents an opportunity for scholars and researchers, throughout the world, to contribute to the body of knowledge relating to our profession and to specific disciplines, related programs and activities. The journal also provides an additional avenue for publication of appropriate and relevant research and research-oriented articles for our profession. This journal seeks to meet the obvious need of providing meaningful articles to those professionals and students engaged in the broad area of HPER•SD and related fields/areas. This is the very essence of scholarly journals.

The ICHPER•SD Journal of Research continues to accept research (scholarly) manuscripts that will contribute to and expand the knowledge base of our profession, *from both a national and an international perspective*. Three or four reviewers, plus the editor, will review each submitted manuscript.

The journal is also actively seeking additional professionals who would be willing to serve as reviewers for the journals as well as additional assistant editors. Please contact the editor at bstier@brockport.edu.
TABLE OF CONTENTS

4 Message from the President:

5 Women and Exercise Adherence: Identification of Motivational Factors Across Younger and Older Exercisers
Robet Frost and Mark E. Moore

12 Assessing Satisfaction With Graduate Sport Management Programs: An Examination of International Students' Academic Contentment
Tacho Yoh and Paul M. Pedersen

18 An Examination of Southern Chinese Collegiate Leisure-Time Exercise Patterns
Xiaofen Deng Keating, Yong Huang, Jianmin Guan, Mingying Deng, Longhui Zhu and Chuanwei Dwan

27 Participant Evaluation of a Mentor Training Workshop: Implications for Faculty Development
Steven Wright, Michael McNeill, Steven Tan, Clara Tan, Joan Fry and Paul Schempp

35 What the Field of Physical (Activity) Education Should Do in the Immediate Future
Earle F. Zeigler
“A Promise to Our Members Fulfilled” was a subject of my message in the inaugural issue of the ICHPER·SD Journal of Research in April 2006.

We have undertaken the big step of creating the Journal of Research to enhance the quality of our membership services and underpin our strategies to promote and encourage the highest level of research activities for HPERSD professionals worldwide. In my previous message, I brought up John F. Kennedy’s quote, “Change is the law of life”, in an effort to persuade those who might prefer the status quo. Yet, change has brought on a new predicament for the ICHPER·SD editorial team: a lack of quality pure scientific research articles being submitted for publication. We therefore are putting out a call to all members to reinvigorate your research activities and submit your findings to the Journal of Research to fulfill our mission to build a better quality of life for all.

Anyone who has read my messages knows that probably my favorite Kennedy quote is, “Ask not what your country can do for you; ask what you can do for your country.” I often think of this quote, because it describes my philosophy about this organization. If you wish to reap the most rewards from your participation, give back to the organization and to others.

Our organization is giving back and growing by providing many opportunities for our members. ICHPER·SD has actualized 31 world congresses; ICHPER·SD Regional Congresses (2 Africa Regional Congresses; 5 in Asia; 10 in Europe; 3 in Latin America; 2 in The Middle East; and 2 in North America and the Caribbean. In 2006: ICHPER·SD has scheduled regional congresses in Ghana (3rd Africa Regional Congress) in August; in Venezuela (4th Latin America) in September. In 2007, the 50th ICHPER·SD Anniversary World Congress will be held November 13-17, 2007 in Rome, Italy, and 4 additional ICHPER·SD regional congresses will be held in February and March.

Now, I hope you would ask what you can do for your ICHPER·SD? We invite you to submit your scholarly articles for publication in the ICHPER·SD Journal of Research and/or the Journal of ICHPER·SD; we invite you to apply to become reviewers of the submitted articles; and we invite you to apply for a leadership position as Director/Co-Directors of the ICHPER·SD Commissions through the procedures described in the President’s Message in the Journal of ICHPER·SD, both spring and summer issues of 2006.

As HPERSD professionals, our challenges and horizons are now greater than ever as we study and search for ways to benefit all global citizens!!!

Thank you.

Dong Ja Yang, Ph.D.
President, ICHPER·SD
Women and Exercise Adherence: Identification of Motivational Factors Across Younger and Older Exercisers

by Robert Frost and Mark E. Moore

Abstract

The purpose of this study was to examine the motivational factors for exercise adherence among women in the 18-to-29 year age group and the 30-to-45 year age group. Specific factors examined are appearance, competition, enjoyment, friendship, goal achievement, weight loss, mental health, physical health, skills, and social acceptance. Results indicated that women in the younger age group were motivated to workout because of concern for their appearance and the propensity for competition; while women in the older age group were motivated to workout by the desire to maintain physical health and to lose weight. In conclusion, motivational factors for exercise adherence among women vary across the age spectrum.

Women and Exercise Adherence: Identification of Motivational Factors Across Younger and Older Exercisers

What drives humans to exercise? It is an activity that may be time consuming, exhausting, expensive, and at times, even painfully difficult. Is there a difference between exercise motivations within gender? Particularly, what motivates women to adhere to exercise, and is there a difference among age groups? It is a worthwhile effort to identify whether or not motivational factors across age groups vary in significance. The problem of this study is to ascertain why certain women adhere to exercise programs while others do not have the desire to maintain their initiative to exercise. To fully address this problem, the factors influencing patterns of regular exercise must be examined.

Because a majority of the 25 exercise motivation studies conducted, thus far, possess a thrust pertaining to children and males, women should be an increased focus of motivational research in exercise adherence. Studying age differences in exercise motivation across the entire population has been well documented. Additional research should be done, however, which focuses on age differences among women, because the female population historically was perceived as having a more sedentary lifestyle than the male population. Data, which may show a changing trend, would be insightful to future researchers who examine exercise adherence (Rudman, as cited in Gill & Overdorf, 1994).

This study shows how women in various stages of life have different motivational incentives for exercise. Further, exercise programs which have been tailored to meet individual motivational standards have shown to be more adhered to than generic programs that do not meet the specific needs of the exerciser (Bull, Kreuter, & Scharff, 1999, as cited in Campbell, MacAuley, McCrum, & Evans, 2001). Identifying motivational factors, across female age groups could be helpful for exercise promoters, who want to develop meaningful exercise programs for their clients and patients (Tiggemann & Williamson, 2000). A well-prescribed exercise program may result in physiological benefits such as, muscular hypertrophy, decreased body fat, increased cardiac output, and decreased blood pressure (Foss & Keteyian, 1998). Additionally, psychological enrichments include, stress relief, reduction in depression, improved moods, and self-confidence. But even the best exercise programs prove ineffective when they are not adhered to. While health reasons, such as heart disease, are major motivational factors for men, women are typically driven to exercise in attempts to improve their physical appearance (Cheskin & Friedman, 2001). There are other motivating factors that influence both men and women to exercise. These factors, which have been tested in research, include recognition, fitness, mental health, affiliation, competition, stress management, task mastery, creativity, to have fun, and to feel a sense of achievement (Gill & Overdorf, 1994; Wang & Biddle, 2001). The purpose of this study was to identify the motivating factors for exercise adherence across females in the 18-to-29 year age group and females in the 30-to-45 year age group.

An important question to ask when considering all of these motivating factors is do any of these motivating factors help contribute to a healthy lifestyle more than another? Studies reveal that short-term motivators, such as losing weight for a special occasion, are less effective in maintaining exercise adherence over the long run, and may lead to a frustrating cycle of exercising and quitting (Cheskin & Friedman, 2001).

Research indicates that women, particularly young women, exercise to improve physical appearance by controlling weight and toning muscle, as well as to enhance moods (Tiggemann & Williamson, 2000). These motivating factors may create an unhealthy lifestyle, physically and psychologically, especially if unrealistic weight loss goals are set (Cheskin & Friedman, 2001). Women, under the age of 31, also value fitness and physical health. Such factors are positive and should be stressed by exercise practitioners to ensure adherence and safety (Gill & Overdorf, 1994). Not only do motivating factors for exercise adherence differ in significance from male to female participants, but also the age of the exerciser. Research, conducted by Pratt, Macera, and Blanton (1999), showed that there is a decrease in physical activity among boys and girls in their teenage years. An even greater decline has been noted in adolescent girls (Wang & Biddle, 2001). Much of this physical drop-off can be attributed to the technology now available to young people. A 1993 study designed to look at frequency of video game play, revealed that 4.2 hours per week are spent playing video games by seventh and eighth graders (Funk, 1993).

A study by Campbell, MacAuley, McCrum, and Evans (2001) was conducted to test the motivational factors for exercise in regards to age. They categorized people into two age groups, 16-to-44, and 45-to-74. Respondents were asked to participate in a questionnaire, which examined 13 motivational factors. The three areas they focused on were: personal goal setting, effectiveness of exercise, and motivational power.

Campbell et al. (2001) revealed that while there are some similarities between the two age groups, most of the motivational
Exercise Adherence

Factors were ranked differently. Feeling “in good shape” physically was the main reason both groups chose to participate in physical activity. However, only 75% of the older adults deemed this as important, whereas over 87% of younger adults rated it to be a strong motivator. Although older adults ranked third the motivational category associated with improving and maintaining their health, the ranking is low compared to the younger adults. Older adults may be more concerned with the function of everyday living, and feel it may be too late for them to significantly improve their health (Campbell et al., 2001).

Gill & Overdorf (1994) studied 272 women between the ages of 16 and 60 years to identify which incentives for exercise were most important. The women were categorized into four age groups (e.g., under 31 years, 31-to-40 years, 41-to-50 years, and 51-to-60 years) and they were requested to complete an exercise incentive questionnaire consisting of 11 factors. A scale of 1 (not important) to 5 (most important) was used in this study to assess the significance of each of the eleven exercise incentives.

The incentives ranked were fitness, physical health, weight control, mental health, appearance, stress management, task mastery, affiliation, recognition, competition, and creativity. Across the four age groups, fitness and physical health were ranked as most important. Although fitness was most important for the older participants, weight control, was not as salient, ranking only seventh (Gill & Overdorf, 1994). Maintaining mental health was important for older adults, ranking third, while the younger participants ranked it fifth.

Now that effective motivational factors for exercise adherence have been identified, reasons for not adhering must also be highlighted. Research analyses have shown that women think of excuses for not exercising more than men (Kendzierski & Johnson, 1993). It is unclear why this phenomenon exists; perhaps women generally have less expertise in exercise and thus create excuses to protect themselves from new, uncertain environments. Women may think of excuses for not exercising more than men, but the fact remains that excuses affect both genders significantly (Kendzierski & Johnson). People who are new to exercise typically think of excuses for not exercising more frequently than experienced exercisers. Exercise for inexperienced participants could be more difficult and therefore excuses may be more numerous.

There are several reasons for studying motivational factors for exercise and the implications these factors have on adherence (Tiggemann & Williamson, 2000). How many health clubs promote their service with images of beautiful young women having fun and working hard? Young women and men make up a large portion of exercisers, and targeting them as clients is necessary for any health club that wants to make money. But there are also many older adults who long to have their exercise needs met. Exercise promoters must use the data collected about motivating factors and apply it to their health club for the benefit of their business and more importantly, their clients.

Information about motivational factors will also help exercise promoters to educate their members about healthy lifestyles. Many discontinue exercising because they may become frustrated by their lack of motivation. This could result from entering into an exercise program with the wrong incentives, such as losing weight for an upcoming wedding (Cheskin & Friedman, 2001).

People who integrate physical activity into their lifestyle will, in the long-term, benefit from all the physical and psychological effects produced through exercising. It is relevant to study the motivational factors for exercise so that exercise practitioners can effectively promote a healthy lifestyle.

Theoretical Framework

While health reasons, such as heart disease, were major motivational factors for men, women are typically driven to exercise in attempts to improve their physical appearance (Cheskin & Friedman, 2001). As noted above, some of the motivating factors that influence both men and women to exercise are recognition, fitness, mental health, affiliation, competition, stress management, task mastery, creativity, to have fun, and to feel a sense of achievement (Gill & Overdorf, 1994; Wang & Biddle, 2001). Research has indicated that women, particularly young women, exercise to improve physical appearance by controlling weight and toning muscle, as well as to enhance moods (Tiggemann & Williamson, 2000). These motivating factors may create an unhealthy lifestyle, physically and psychologically, especially if unrealistic weight loss goals are set (Cheskin & Friedman). Young women, under the age of 31, also value fitness and physical health. Such motivating factors are positive and should be stressed by exercise practitioners to ensure adherence and safety (Gill & Overdorf, 1994). Consequently, the following hypotheses are formulated below:

H1: Females within the 18-to-29 age segment are significantly more likely to exercise for appearance purposes than females within the 30-to-45 age segment.

H2: Females within the 18-to-29 age segment are significantly more likely to exercise for enjoyment reasons than females within the 30-to-45 age segment.

H3: Females within the 18-to-29 age segment are significantly more likely to exercise because of friendship than females within the 30-to-45 age segment.

Younger adults rated having fun as an important motivator, while older adults believed it was of little concern. Results of this study could help exercise practitioners promote the right motivational factors to the right age group (Campbell et al., 2001). This study shows how women in various stages of life have different motivational incentives for exercise. Thus, the following hypothesis is proposed for testing:

H4: Females within the 18-to-29 age segment are significantly more likely to exercise because of prior involvement in competitive activities than females in the 30-to-45 age segment.

Campbell et al. (2001) revealed that while there are some similarities between the two age groups, most of the motivational factors were valued differently. Acquiring good physical shape was the main reason why both groups chose to participate in physical activity. However, as previously reported, only 75% of the older adults ranked this as important, whereas over 87% of younger adults rated it to be a strong motivator. Although, “to improve or maintain your health” ranked third in older adults, the percentage is low compared to the younger adults. Older adults may be more concerned with just completing their daily activities, and feel it may be too late for them to significantly improve their health (Campbell et al.). Based on such information, the following
statements are hypothesized:

H₉: Females within the 30-to-45 age segment are significantly more likely to exercise because of physical health concerns than females in the age segment of 18-to-29.

H₁₀: Females within the 30-to-45 age segment are significantly more likely to exercise because of mental health concerns than females in the 18-to-29 age segment.

H₁¹: Goal achievement is significantly more likely to influence exercise adherence among females within the age segment of 30-to-45 than females in the 18-to-29 age segment.

Across the four age groups examined by Gill and Overdorf (1994), fitness and physical health were ranked as most important. Although fitness was most important for the older participants, weight control, was not as salient, ranking only seventh out of the eleven incentives. It may be that women in their 30s and 40s are concerned about fitness aspects because they want to regain or maintain their figures. Therefore, such motives must be considered when examining factors influencing exercise adherence among women between 30-to-45 years of age.

H₁₂: Females within the 30-to-45 age segment are more likely to workout to regain their pre-childbirth figure than females within the 18-to-29 age segment.

Methods

Participants

To recruit participants for this study, a three-fold strategy was implemented. First, consent was obtained from managers of four mixed-gender clubs, and four female-exclusive clubs. Second, after consent was obtained from the respective club management by the researchers, several personal trainers were asked to distribute the survey instrument. Third, the personal trainers distributed the survey instrument to female patrons in their aerobics class and to their female clients in general.

Participants (n = 185) were placed into either the 18-to-29 year old age group (n = 112) or the 30-to-45 year age group (n = 73). The mean age of the two groups was 21.3 years (SD = 2.23) and 35.9 years (SD = 4.21), respectively. Each participant completed the Exercise Motivation Questionnaire (EMQ), created by the researcher, which was used to determine the motivational factors for exercise adherence. All the surveys were completed, although five were dropped due to incomplete demographic information. Height and weight were used to determine body mass index. In the five that were dropped, weight was not indicated, resulting in an incomplete questionnaire.

Participants were examined within the 18-to-29 year segment and 30-to-45 year segment. These segments were selected because the priorities of women from 18-to-30 begin to change dramatically. Females in the younger age group tend to be in school or have just entered the workforce. They are likely to be motivated by different factors than women who are in their 30’s and early 40’s and have a family, career, or a duel family-career lifestyle.

Procedures

The instrument used for collecting data from health club members was the EMQ, which was designed for this study and had not been previously used for data collection purposes. The EMQ was created to assess the motivating factors for exercise among female exercisers. Specifically, the instrument was created by initially reviewing the work of Campbell et al. (2001) to better understand how motivational factors vary across age segments. Subsequently, the “Personal Incentives for Exercising” questionnaire - created by Duda and Tappe (1989) - was examined. Through the review of literature, 10 motivational factors were identified as being important to exercise adherence among women. They are appearance, competition, enjoyment, friendship, goal achievement, losing weight, mental health, physical health, skill improvement, and social acceptance. Each of the ten motivating factors consisted of five statements that corresponded to that particular motivating factor, resulting in a total of 50 statements. The individual factors were assessed on a five-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree.

Examples of some statements in which the participants responded were: I am excited to workout when I arrive at the gym (enjoyment); I workout to relieve anxiety (mental health); I workout because I want to improve my appearance (appearance). In addition to the assessment of motivational factors, the EMQ also gathered demographic information pertaining to the club the participant worked out at, age, height, and weight of the participant, years the participant had been exercising, and the number of times per week the participant works out. Also examined were whether individuals participate in a sport that is recreational or league oriented, whether the participant either works or attends school full-time, as well as the income level of the participant and the number of children she has. A copy of the EMQ is appended to this study.

All health club managers agreed to participate in the study on the condition that they receive the results of the study. A cover page was attached to each survey, which stated the purpose of the study and provided instructions on how to complete the EMQ. Several personal trainers volunteered to distribute the EMQs in their aerobics class, and to their clients.

Prior to pilot testing, an expert panel consisting of four university faculty members assessed the content validity of the instrument. They deemed the instrument logical and appropriate to investigate the research problem. A pilot study involving, 10 females who were frequent exercisers, was then used to further assess the EMQ. This evaluation showed that the instrument was logically constructed and possessed content required to assess the problem. Additionally, the reliability of the instrument was assessed using the Cronbach Alpha technique. This analysis revealed an alpha of .83; thus, indicating a reliable instrument.

Data Analysis

Motivational factors were ranked by importance on a Likert scale: 1 (strongly disagree), 2 (disagree), 3 (neither agree or disagree), 4 (agree), and 5 (strongly agree). The total score from the five statements of each of the 10 motivating factors was summed together. Each of the 50 statements that makes up the EMQ was also looked at and compared by age group. Initially, a demographical profile was constructed through using descriptive statistics. Secondly, independent sample tests at an alpha level of .05 were used to evaluate the significance of the respective hypotheses. These t-tests were used because they were designed to compare the means between the 18-to-29 and 30-to-45 age samples.
While increased experimental error could be considered a concern with the choice of the tests, statisticians felt the t-test technique could offer the most insight into the group mean comparisons across motivational factors.

**Results**

The results will be displayed initially through providing a demographical profile. Then, the proceeding results will indicate whether or not there is support for the eight hypotheses formulated for testing in this study.

**Demographical Profile**

Table 1 through Table 8 provides a display of the demographic data that were collected by the EMQ. The information examines body mass index, exercise experience, frequency of exercise, sport participation, career, income, number of children, and location of the exercise club. The EMQ was distributed to eight health clubs; four mixed-gender clubs, and four women-exclusive clubs. The demographical data indicate the differences between the two age groups in terms of lifestyle. Older women work out more at women-exclusive clubs, earn a higher income, and have more children.

<table>
<thead>
<tr>
<th>Table 1. Demographic Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Body Mass Index, kg/m²</strong></td>
</tr>
<tr>
<td><strong>Age Group</strong></td>
</tr>
<tr>
<td>18 to 29</td>
</tr>
<tr>
<td>30 to 45</td>
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</tbody>
</table>

<table>
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<tr>
<th>Table 2. Years of Exercise</th>
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</thead>
<tbody>
<tr>
<td><strong>Experience in Years</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1-3 years</td>
</tr>
<tr>
<td>4-7 years</td>
</tr>
<tr>
<td>8-11 years</td>
</tr>
<tr>
<td>12+ years</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 3. Frequency of Exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Days per Week</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1-2 days</td>
</tr>
<tr>
<td>3-4 days</td>
</tr>
<tr>
<td>5+ days</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 4. Recreational and/or League Sport Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yes/No</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

**Assessment of Motivational Factors Across Age Segments**

H₃ indicated that females in the 18-to-29 year segment were significantly more motivated to workout for appearance reasons (t = -3.23, p = .001) than females in the age segment of 30-to-45. Results indicated women within the 18-to-29 year age segment showed a significantly higher mean score (16.79) than the mean score (15.56) of individuals within the 30-to-45 year age group. Thus, women in the 18-to-29 segment felt that the factor of appearance was more motivating than women in the 30-to-45 age segment. Results indicated no support for H₂ proposing that females within the 18-to-29 age segment are significantly more likely to exercise because of enjoyment (t = -1.21, p = .299). There was also no support for the third hypothesis (H₃) suggesting that those in the 18-to-29 age segment exercise significantly more because of friendship than the female patrons within the age segment of 30-to-45 (t = -.060 p = .956). However, there was support for H₄ that stated women in the 18-to-29 age segment are more significantly influenced to exercise because of their prior involvement in competitive activities than female patrons in the 30-to-45 age segment (t = -2.83; p = .005).
Results across the competition dimension showed the 18-to-29 segment had significant higher mean scores (15.89) than the mean scores (14.19) for the 30-to-45 segment.

There was support for Hs stating that physical health was a significantly more motivating for women in the 30-to-45 year age segment (t = 2.74, p = .007) than the age segment of 18-to-29 year olds in terms of exercising. The segment of 30-to-45 years reported a significantly higher mean score (18.00) than women in the 18-to-29 year age group (16.83). There was no support for Hs (t = -.690, p = .484). Thus, mental health did not significantly vary in influence across the age segment. In addition, the goal attainment factor’s influence in terms of exercising was shown not to significantly vary across examined age segments (t = -1.42, p = .158). Thus, offering no significant support for Hs. Women in the 30-to-45 segment were found to be more motivated to workout to lose weight after pregnancy, (t = 2.00, p = .045) than female patrons within the 18-to-29 segment, thus showing support for Hs. Data analysis also revealed that women in the older segment were more likely to have children than women in the younger segment (78% of the 30-to-45 age group verses 3% of the 18-to-29 age group, respectively, indicated being mothers). T-score data and mean scores are reported in Table 9 and Table 10.

### Table 9. Motivational Factors

<table>
<thead>
<tr>
<th>Motivational Factor</th>
<th>t</th>
<th>Probability Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>-3.23</td>
<td>.001</td>
</tr>
<tr>
<td>Competition</td>
<td>-2.83</td>
<td>.005</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>-1.21</td>
<td>.299</td>
</tr>
<tr>
<td>Friendship</td>
<td>.060</td>
<td>.956</td>
</tr>
<tr>
<td>Goal achievement</td>
<td>-1.42</td>
<td>.158</td>
</tr>
<tr>
<td>Lose weight</td>
<td>2.00</td>
<td>.048</td>
</tr>
<tr>
<td>Mental health</td>
<td>-1.690</td>
<td>.494</td>
</tr>
<tr>
<td>Physical health</td>
<td>2.74</td>
<td>.007</td>
</tr>
<tr>
<td>Skilled improvement</td>
<td>.94</td>
<td>.349</td>
</tr>
<tr>
<td>Social acceptance</td>
<td>.46</td>
<td>.629</td>
</tr>
</tbody>
</table>

Note: The direction of the t-test variance is from the 30 to 45 age segment to the 18 to 29 year age segment.

### Discussion

This study was developed to ascertain what motivational factors affect exercise adherence among women within the age segments of 18-to-29 and 30-to-45. Such motivational factors were both intrinsic and self-motivating in nature. The results of this study supported previous results of Wilson, Rodgers, and Fraser (2002) that revealed positive exercise results were attributed to intrinsic and self-determined motives. It would be reasonable to say that encouraging motivating factors which promote intrinsic motivation, would be beneficial for women who want to get the most satisfaction out of their workout.

In addition to providing information regarding the motivational factors for exercise, the results of this study revealed important demographical comparisons that should be discussed. Of particular importance is the income disparity between those in the 18-to-29 year segment and those in the 30-to-45 year segment. Results showed that 75% of participants within the younger age segment had annual incomes of less than $10,000.00, while only 8% of those within the older age segment had similar incomes. Further, it was shown that 48% of those within the 30-to-45 age segment workout at female-exclusive clubs compared to 12% in the 18-to-29 age segment. When taken into consideration with income, this may suggest that female-exclusive clubs are more expensive and more affordable to older women.

Additionally, results indicated that 97% of participants within the 18-to-29 segment indicated a full-time commitment to work or school compared to 66% within the 30-to-45 year group. This suggests that female participants within the younger segment may be unmarried with little obligation to family life. Such assumptions are supported by findings indicating that 97% within the 18-to-29 segment indicated having no children compared to 16% within the 30-to-45 segment. Thus, the impact of family life seems to evoke the salient of certain motivational factors relating to exercise variation in significance across age segments.

In both age groups, enjoyment was the leading motivating factor for exercise adherence in women. Women in this study indicated that they enjoyed arriving at the gym (mean = 21.49 for younger women, mean = 20.96 for older women), but were in an even better mood when they concluded their workout (mean = 4.66 younger group, mean = 4.49 older group). When the positive results of exercise were realized, levels of enjoyment were high.

Having reasonable workout goals to achieve was also important for motivation in both age groups. This suggests that women may be intrinsically motivated to exercise and maintain physical fitness. A recent study was conducted by Wilson et al. (2002) using the Behavioral Regulation in Exercise Questionnaire (BREQ) – which was first used by Mullen, Markland, and Inglgedew (1997) – to observe the psychometric properties of the questionnaire, found...
intrinsic motivation to be significant.

Younger women may have been more likely to be motivated to exercise by the appearance of models in fashion magazines and a desire to attract men, (t = -3.44, p = .001). While such sources of motivation may not be negatively perceived, more positive exercise results may be attained through motivating factors that are more intrinsic in nature. Exercise promoters and marketers often use images of lean women to market their product. This advertising technique may initially contribute to women becoming health club members, but ultimately, strong intrinsic motivators will result in their retention.

This study demonstrates that women are also motivated when they see positive results which can be attributed to work and dedication. Results show that women try to increase their physical strength and physical fitness each time they workout (mean = 4.18 for younger, mean = 4.00 for older). Even if women have a certain perception of what they desire to look like, that may not be enough to motivate them to adhere to their workout program. The gym is a place where many women go to forget about their problems and relieve the stress of everyday living.

Results from a study conducted by Campbell et al. (2001) revealed that physical health was the leading motivating factor for women ages 16-to-45. Having fun and feeling mentally alert were also important to this age group. These findings correspond to the results that were indicated in this study showing women in the 30-to-45 year age group to be more cognizant of their physical health.

Achieving physical fitness was also important for the participants in the study by Gill and Overdorf (1994). The EMQ revealed that physical health was important to motivation, while losing weight was not. Cheskin and Friedman (2001) speculated that women might be motivated to lose weight for a specific occasion, such as a wedding.

**Conclusion and Recommendations**

Despite what the media promotes, most women are not motivated to workout by images of lean and attractive young women and men. Exercising allows women to be in control of their own physical fitness and mental health. Those who are exercise promoters and marketers would benefit from understanding the exercise needs of women. The EMQ was designed with the hope that it would shed some light on what motivates women to adhere to exercise. Consequently, future applications of the EMQ are needed to explore exercise motivation to provide validation to the results of this study.

When concluding a discussion relating to exercise adherence, attention must be provided to recommendations for future research. Further studies conducted to illuminate the motivating factors of exercise adherence in women would be beneficial to the fitness industry and female exercisers. Understanding the motivators of exercise adherence of women may help health clubs to design activities and workout programs that are effective in improving the physical fitness habits of female exercisers. An important endeavor would be to replicate this study on a national basis. Such a study would certainly examine a large sample size that would be able to delve deeper into demographical factors such as marital status and the impact of racial status. In addition, such an endeavor could be longitudinal rather than cross-sectional in structure. To offer additional insight into the motivational factors influencing exercise, personal interviews should be utilized in future studies. This method could supplement the application of the EMQ through enabling the investigators to probe into sensitive issues pertaining to exercise adherence.

To obtain more knowledge on exercise adherence, motivational factors should be compared across male and female participants. Such investigations should give attention to factors that increase motivation and to factors that decrease motivation (i.e. lack of time, fatigue). In this study alone, results indicated that 97% of participants within the 18-to-29 year segment indicated having a full-time work or school commitment. This suggests that lack of time can have significant influence on the ability to exercise on a regular basis.

Another interesting disparity between the 18-to-29 and 30-to-45 year segments was their differences in patronizing health clubs. As previously stated, women in the 30-to-45 age segment revealed a preference for patronizing clubs exclusive to women, while their counterparts in the 18-to-29 segments preferred unisex clubs. Consequently, future investigations should compare exercise adherence at mixed-gender health clubs to the exercise adherence at women-exclusive health clubs.

In conclusion, this study provides insight to managers on the motivational factors influencing the exercise patterns of women. However, to provide ongoing knowledge relating to exercise adherence, future research on this topic is recommended.

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**References**


Appendix

Exercise Motivation Questionnaire

The purpose of this study is to examine women and exercise as it pertains to strength and endurance training, not participation in sports. (Please circle answer where appropriate)

At what health club do you workout?

What is your age?

What is your height and weight?

How many years have you been exercising? 1-3, 4-7, 8-11, 12+

How many times a week do you workout? 1-2, 3-4, 5+

Do you play a sport recreationally or in a league, if so what sport?

Do you work or attend school full time?

What is your annual income?

Less than 10K, 10-30K, 31-60K, 61-100K, 100K+

How many children do you have? Zero 1-3, 4+

1=strongly disagree 2=disagree 3=neither agree or disagree 4=agree 5=strongly agree

I am exited to workout when I arrive at the gym. 1 2 3 4 5

I workout because my friends workout. 1 2 3 4 5

I workout to forget about my problems. 1 2 3 4 5

I workout to rehabilitate an injury. 1 2 3 4 5

I workout to attract men. 1 2 3 4 5

I workout to be with friends. 1 2 3 4 5

I enjoy exercising when I see the positive results. 1 2 3 4 5

Competition motivates me to workout. 1 2 3 4 5

I workout to relieve anxiety. 1 2 3 4 5

I try to increase my strength and cardiac fitness each time I workout. 1 2 3 4 5

I workout to improve my physical health. 1 2 3 4 5

I workout because I want to improve my appearance. 1 2 3 4 5

I feel a part of something when I am at the gym. 1 2 3 4 5

I incorporate a healthy diet along with my exercise program. 1 2 3 4 5

I would be more faithful to exercising if I worked out with a friend. 1 2 3 4 5

Having goals motivates me to exercise. 1 2 3 4 5

I am motivated to work harder when someone pushes me. 1 2 3 4 5

Overall, I am pleased with my body. 1 2 3 4 5

Exercising gives me a sense of enjoyment. 1 2 3 4 5

I exercise only when I have to lose weight. 1 2 3 4 5

Achieving mental health motivates me to workout. 1 2 3 4 5

Losing weight after pregnancy motivates me to exercise. 1 2 3 4 5

Being accepted by my peers motivates me to workout. 1 2 3 4 5

I workout to combat diseases. 1 2 3 4 5

Wanting a nice body motivates me to exercise. 1 2 3 4 5

I am motivated to workout because it’s something I can control. 1 2 3 4 5

Goal setting is important for my exercise effectiveness. 1 2 3 4 5

Being physically healthy motivates me to workout. 1 2 3 4 5

I am motivated to workout by the enjoyment it brings me. 1 2 3 4 5

Exercising with a male partner motivates me to workout harder. 1 2 3 4 5

I workout harder when I am with a friend then when I am alone. 1 2 3 4 5

I set goals for myself in all aspects of my life. 1 2 3 4 5

Improving my exercising technique motivates me to exercise. 1 2 3 4 5

I feel free from stress when I am at the gym. 1 2 3 4 5

Failing to reach my goals decreases my motivation to exercise. 1 2 3 4 5

I workout to lose weight. 1 2 3 4 5

Women in fashion magazines motivate me to exercise. 1 2 3 4 5

My friend motivates me to get to the gym. 1 2 3 4 5

Being accepted by my others is important to me. 1 2 3 4 5

I workout because I compete in a sport. 1 2 3 4 5

Using proper technique is important when I exercise. 1 2 3 4 5

I would workout more if I were better educated in exercise technique. 1 2 3 4 5

I depend on a personal trainer to create my exercise program. 1 2 3 4 5

I use diet supplements. 1 2 3 4 5

Overall, I am a competitive person. 1 2 3 4 5

I feel better about myself when I lose weight. 1 2 3 4 5

I generally feel more secure when I workout with a friend. 1 2 3 4 5

I workout to gain approval from a significant other. 1 2 3 4 5

I set reasonable workout goals for myself to achieve. 1 2 3 4 5
Assessing Satisfaction With Graduate Sport Management Programs: An Examination of International Students' Academic Contentment

by Taeho Yoh and Paul M. Pedersen

Abstract

Educational institutions realize many advantages surrounding international diversity within a student body population. A key determinant of continued success in the pursuit of such diversity is the students’ satisfaction levels. The purpose of this study was to investigate the academic satisfaction of international students with graduate sport management programs. In addition to providing demographic data, the completed questionnaires by 42% of the international students (N = 70) from 32 sport management graduate programs revealed the students’ overall satisfaction and significant differences in their satisfaction levels with instruction, relationships with faculty, and other students. The implications and importance of the findings of this study are discussed.

Assessing satisfaction with graduate sport management programs: An examination of international students’ academic contentment

The growth – and predicted growth – in the number of individuals who have chosen to pursue educational endeavors in foreign countries is a booming diversity phenomenon that has major global implications. According to The Christian Science Monitor, “The demand for foreign study remains high: About 2 million students worldwide study outside their home countries now, and that number is expected to grow to 8 million by 2025” (Altbach, 2004, Introduction section, ¶ 6). For example, in Australia, international education (and its approximately $4.2 billion contribution to the economy) is the country’s third largest exporter – trailing only tourism and transportation – in the services sector (Parliament of Tasmania, 2003). In the United States, despite a recent downward trend because of closer scrutiny of and greater restrictions on international visitors after 2001, international students still infuse $13 billion yearly into the economy of the United States (“Council of Graduate Schools,” 2004; “USA Study Guide,” 2005).

The Institute of International Education (IIE) reported that from the late 1970’s through the late 1990’s the international student enrollment in colleges and universities in the United States more than doubled. According to the most recent numbers released by the IIE (“Institute of International Education,” 2005), the United States has hosted more than half a million international students for six consecutive years. The number of international students in institutions of higher education in the United States stood at 565,039 according to the IIE publication Open Doors 2005. Due to the competitiveness and dynamic changes in domestic educational environment (i.e., decreased budgets, declining enrollments, demands for globalization), higher educational institutions within the United States have become more conscious of attracting international students (Van Hook, 2005). Students come from – and many return to advance into influential positions to – every country in the world in order to take advantage of the perceived and real benefits provided through pursuing an education in colleges and universities in the United States.

There are over 250 sport management programs around the world (Pedersen, Schneider, & Whisenant, 2005; Stier, 2001). With a growth rate of 5,000 percent over the last three decades, the United States alone now has more than 200 sport management programs (Parkhouse & Pitts, 2005). The North American Society of Sport Management (NASSM) website (www.nassm.org) lists over 75 master’s programs. Furthermore, Jisha and Pitts (2004) found only 10 doctoral sport management programs. Most of these graduate programs purposely seek to secure and retain various percentages of international students. For instance, in the latest release by the United States Census Bureau (2004), 26 percent of the 39,955 doctoral degrees conferred in 2002 went to citizens of another country. Just as students do in other academic programs, international students in sport management consider several important factors when they seek the information about the colleges and programs in the United States (e.g., McMurtie, Bollag, & Maslen, 2001; Neumann & Neumann, 1981; Perrucci & Hu, 1995; Sam, 2001). Based on an analysis of the sources above, one of the most important criteria of the deciding factors is the quality of education, including academic integrity, reputation of the institution and program, and qualified teaching staff. Another key factor is the atmosphere of the program. Included in this factor are aspects such as the hospitableness of the culture and people to the needs of international students. Accompanying this is the willingness of the faculty to help international students. Still another major factor in choosing graduate schools involves the campus experience. This factor involves interpersonal relationships (i.e., making friends) as international students feel the establishment of relationships and the extracurricular activities participated in on campus last a lifetime (Bogler & Somech, 2002; Elliot & Shin, 2002; Fina–Newmann, 1994; McMurtie, Bollag, & Maslen, 2001).

International students bring benefits to the programs, colleges, and universities they attend (Peterson, Briggs, Dreasher, Horner, & Nelson, 1999). The advantages of such diversity can be documented around the world. For example, the International Development Program Education Australia (IDP) noted that, “It is important to remember that Australia’s international education contributes much more to this country than simply a financial return. The thousands of international students who choose to study in Australia each year bring immeasurable social, cultural, business, political and diplomatic links and benefits, and help secure Australia’s position around the world” (as cited in Parliament of Tasmania, 2003, p. 3).

The United States receives similar benefits from such international diversity. For instance, attending a school that enrolls a substantial number of international students may provide American students an advantage in the marketplace as the experience increases their culturally sensitivities and skills in working with people from different backgrounds (Calleja, 2000; Carnevale, 1999). As in other fields, globalization is one of the important issues in sport management (Apostolopoulou & Papadimitriou,
Institutions, programs, faculty, and students increase their global perspectives and knowledge through the interactions with international students. Another educational benefit that international students bring is that many academic fields need student-assistants to help with teaching and research (Peterson et al., 1999). If not for international teaching assistants, many courses required by students would be in short supply (Peterson et al., 1999).

As noted above, international students are very important for the economic validity of colleges, universities, and surrounding communities in the United States. The international students spend $13 billion annually for their tuition and living expenses (“USA Study Guide,” 2005). Currently, many colleges and universities secure significant financial advantages through the admission of international students (Rooney, 2003).

In addition to their presence in the educational programs, Peterson et al. (1999) noted that international students help energize the economy through their purchase of products and services that often create or sustain jobs for Americans. Another key benefit of the presence of international students in academic (i.e., sport management) programs is that many take the leadership lessons learned in the United States and apply them in their homeland (Peterson et al., 1999). The graduates often return home to assume leadership roles where the academic models they learned and experiences encountered during their studies in the United States help to shape programs and curricula in their countries.

Because of the benefits provided through the enrollment of international students in the United States, many colleges and universities place an emphasis on recruiting and retaining such diversity in the student body population (Van Hook, 2005). Regarding educational institutions based in the United States, there are sport management programs (i.e., the University of Louisville’s program in Athens, Greece) that offer a variety of programming options to help recruit international students. International students and students who are United States citizens share many similarities, not the least of which is the key determinant of retention and recruiting for both is their satisfaction (Earwood-Smith & Colbert, 1989). As student satisfaction increases, so does the rate of retention (Wyckoff, 1998). The current students’ satisfaction with programs also plays a significant role in the recruitment of new international students. This is because before qualified and admitted international students reach their final decisions regarding which university or college to attend, they will often contact current students in the prospective programs – particularly students from the same country – to ask about their satisfaction (Perrucci & Hu, 1995).

**Student Satisfaction**

Student academic satisfaction is defined as the favorability of a student’s subjective evaluation of the various outcomes and experiences associated with education (Oliver & DeSarbo, 1989). For decades scholars and academic administrators have examined the importance of students’ satisfaction with academic programs (Conant, Brown, & Mokwa, 1985; Earwood-Smith & Colbert, 1989; Elliot & Shin, 2002; Pascarella & Terenzini, 1991; Wyckoff, 1998). Studies have found that student satisfaction data give a direct impact on various factors such as student motivation, development, retention, recruiting, achievement (i.e., academic, personal, and professional), and the reputation of the program and/or educational institution (Bean & Bradley, 1986; Elliot & Shin, 2002; Koseke & Koseke, 1991; Pascarella & Terenzini, 1991). Among the direct impacts, the greatest impact found in relation to student satisfaction is the retention of students (Bean & Vesper, 1994). Retention is a primary concern in campuses across the United States and the best way to ease those concerns is through satisfying students (Bean & Vesper, 1994). While it has yet to be determined whether or not satisfaction is directly related to a student’s decision to remain in or leave college, at a minimum the satisfaction level of the student is related to an institution’s dropout rate.

Patterson, Johnson, and Spreng (1997) emphasized the relationship between satisfaction and retention from the consumer behavior standpoint. These scholars reported a very strong link between customer satisfaction and repurchase intentions.

Higher education is a complex service product and students are consumers. It is logical to assume that if students are satisfied with their educational experiences, they will possess a greater propensity to remain with the educational institution and if they are dissatisfied with their educational experience, they will have a greater propensity to leave the college or university for a better service. Therefore, as noted by Elliot and Shin (2002), more and more institutions are realizing it is better to invest now (i.e., retain students) than to invest later (i.e., attract new students).

Student satisfaction is also closely associated with student performance. Students who have higher satisfaction levels show higher motivation toward their studies and programs, which often leads to higher Grade Point Averages (GPA). Students who are satisfied with their academic programs and faculty are more likely to be successful whether they are undergraduate or graduate students (Bean & Bradley, 1986).

**Student Satisfaction Dimensions**

Although studies have shown that the factors perceived to be of most importance to student satisfaction somewhat differ between institutions and subject fields, three major dimensions have consistently received attention: (a) quality of instruction, (b) faculty-student interaction, and (c) social interaction with other students in the program (Feild & Giles, 1980; Powers & Rossman, 1985).

The quality of instruction (i.e., the academic integrity of the program) is one of the key components of student satisfaction. This is because the pedagogical activities that are involved with instructing help to shape the overall educational environment and to characterize the extent to which quality learning can occur (Bean & Bradley, 1986; Mayzer & DeJong, 2003). Morstain (1977) found that satisfied students’ academic orientation was more congruent with faculty educational orientation than the academic orientation of students who were less satisfied.

The importance of instructor and student interactions has also received significant attention in student satisfaction research (Mayzer & DeJong, 2003; McNeil-Hite, 1985; Schmidt & Sedlacek, 1972). Scholars such as Pascarella and Terenzini (1991) and McNeil-Hite (1985) have found that interpersonal relationships between students and instructors are the major contributing factors on student satisfaction not just because of their short-term benefits (i.e., retention) but also because of their long-term advantages (i.e.,
careeraspirations,intellectualdevelopment,personaldevelopment). In general, students who have greater satisfaction tend to have more frequent interaction with faculty members. Furthermore, the number of faculty with whom a student has become acquainted with has a positive relationship with satisfaction (Harnash-Glezer & Meyer, 1991; Schmidt & Sedlacek, 1972). Frequent interactions between students and faculty bring important benefits to the faculty as well. Through interacting with students, faculty can learn such information as how to improve lecture performances and novel research issues.

Another essential component of student satisfaction is “social life.” This is the interaction between the various students enrolled in an academic program (Feild & Giles, 1980; Hearn, 1985; Neumann & Neumann, 1981; Powers & Rossman, 1985). The relationship with other students is a significant factor for success of graduate school because students often experience stress or support from their peers (McNeal-Hite, 1985). Thus, for the majority of students, social life is important and students who see their social life as a positive aspect of their educational experience are expected to be more satisfied with their academic studies (Bean & Bradley, 1986).

Individual characteristics also appear to have a significant bearing on satisfaction (Umbach & Porter, 2002). Several researchers have found significant gender differences in satisfaction with academic programs (Rienzi, Allen, Sarmiento, & McMillen, 1993; Umbach & Porter, 2002). Harman (2003) determined that female students were decidedly less satisfied than male students with their academic experience. However, some studies have found satisfaction to be unrelated to gender (Bendall-Lyon & Powers, 2002; Perrucci & Hu, 1995).

Few research studies have examined the differences in student satisfaction according to educational degree levels. This is particularly the case when comparing the satisfaction of master’s and doctoral students. Because research has found that various variables can influence academic satisfaction, some research suggests that there are differences in student satisfaction between degree levels. Manese, Sedlacek, and Leong (1988) stated that although international students in general share some commonalities, there seem to be some differences among subgroups of international students. Thus, investigating international students’ satisfaction more specifically by categorizing them into important variables such as sex and standing (degree levels) is important to gain more in-depth knowledge and understand these students.

Although the academic satisfaction of international students has been a long-time topic of empirical study in many academic programs, the majority of past research in these studies has focused on undergraduate students (i.e., Bean & Bradley, 1986; Pascarella & Terenzini, 1991). Moreover, no studies exist in the area of academic satisfaction of international students with their sport management programs. This void needs to be filled with reliable and valid data as faculty members and academic administrators need more information about perceptions of international students’ satisfaction levels with sport management programs in order to know how to gauge – and possibly intervene or improve – their satisfaction with educational and related graduate study experiences.

The purpose of this study was to investigate international students’ academic satisfaction with graduate sport management programs in the United States. Specifically, this study sought to determine if the satisfaction levels differ between 1) genders and 2) degree levels (master’s and doctoral) on three academic dimensions. The three dimensions included satisfaction with instruction, satisfaction with relationship with faculty, and relationship with other students in the program. Based on the literature review and the study’s purpose, the following research questions were developed:

Q1: What are the satisfaction levels of international students in graduate sport management programs?
Q2: Does satisfaction with the quality of instruction differ between genders and degree levels (master’s and doctoral)?
Q3: Does satisfaction with faculty relationships differ between genders and degree levels?
Q4: Does satisfaction with the interaction with other students differ between genders and degree levels?

Method

Because the purpose of this study was to investigate international students’ academic satisfaction with graduate sport management programs in the United States, the researchers sought to develop a database of current graduate students in sport management academic programs. In order to determine the number of international students in the programs, the researchers contacted program coordinators, faculty members, directors of international student offices, and international students in the graduate sport management programs across the United States. In an effort to determine the study’s population, the coordinators and faculty members of sport management programs listed on the NASSM website were contacted. From these contacts the total number of international students (N=167) in graduate sport management programs was established. Therefore, 167 questionnaires were sent to the international students in the graduate sport management programs. Follow-up emails and letters were sent and telephone calls made in order to increase the response rate.

A survey instrument was formulated through an examination of the published research in this area and consultations with international students and faculty in graduate sport management programs. Primarily, the instrument was developed through a modification of previously published instruments used in higher education. The validated instruments of Morstain (1977), Feild and Giles (1980), Conant, Brown, and Mokwa (1985), Nolden & Sedlacek (1998), and Harman (2003) were modified to be more appropriate for this study. Validity was further established when the instrument was reviewed and approved by two sport management and higher education faculty members who have conducted similar studies. The reliability of the instrument was calculated by using Cronbach’s alpha, a coefficient of reliability or consistency. Using SPSS, Cronbach’s alpha for this instrument was 0.81 (reliability coefficients of .70 or higher are considered acceptable). A pretest was conducted with 10 international sport management students and the initial survey was modified upon the pretest results. The survey consisted of two parts with 21 questions. The first part included demographics of gender, country of origin, and the degree level. The second part was the satisfaction survey across three dimensions: (1) satisfaction with instruction (e.g. I
became more competent in this area due to the courses I’ve taken in the program), (2) satisfaction with relationship with faculty (e.g. Professors are considerate in dealing with students), and (3) satisfaction with other students in the program (e.g. I am satisfied with a social interaction with U.S. students in our program). A five-point Likert scale (1 = very dissatisfied to 5 = very satisfied) was used to measure the degree of satisfaction.

Survey questionnaires were sent through e-mail and mail. The data collection process was completed in four weeks. After the information from participants was collected, the researchers compiled and analyzed data. Data were entered and statistics calculated by SPSS for Windows program. Descriptive data by means, percentages, and standard deviations for each of the three dimensions were found for gender and degree level. Analysis of variance (ANOVA) procedures were conducted to investigate statistical differences between genders and degree levels. Alpha values were set at .05 to determine significant differences among groups.

**Results**

There were 70 usable questionnaires returned which represented a 42% response rate. Of the 70 participants, approximately 71% (50) were master’s students and 29% (20) were doctoral students. The gender breakdown of those who responded included roughly 17% (12) female and 83% (58) male. The national origin of the 70 international students included slightly over 83% (58) from Asia, 9% (6) from North America, 4% (3) from Europe, and 4% (3) from South America and Africa. Table 1 summarizes key demographic profile of participants. Descriptive statistics generated from the questionnaire indicated that students’ satisfaction with the quality of instruction was 4.0 (SD=.57), the relationships with faculty was 3.8 (SD=.99), and the other students in the program was 3.3 (SD=.54). These three findings related to the first research question.

**Table 1. Profile of Participants**

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
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<tbody>
<tr>
<td>Total</td>
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<td>100</td>
</tr>
<tr>
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</tr>
<tr>
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<td>71</td>
</tr>
<tr>
<td>Doctoral</td>
<td>20</td>
<td>29</td>
</tr>
</tbody>
</table>

In an examination of research question two, ANOVA on the factor of satisfaction with quality of instruction, with gender and degree level as independent variables – indicated no significant difference between genders, and a significant difference between degree levels (master’s and doctoral), F(1, 70) = 5.028, p = .028). Doctoral students (M=3.8, SD=.52) showed less satisfaction than master’s students (M=4.1, SD=.45) with the quality of instruction. As is noted in Table 2, there was no significant gender difference between degree levels in relation to interaction.

Regarding research question three, ANOVA on the factor of satisfaction with relationships with faculty – with gender and degree level as independent variables – indicated a significant difference between genders, F(1, 70) = 4.389, p = .041, and between degree levels, F (1, 70) = 4.515, p = .037. The results showed that female students (M=3.7, SD=.32) were less satisfied with their relationships with faculty members than were their male counterparts (M=4.0, SD=.57). Doctoral students (M=3.8, SD=.44) were less satisfied with their relationships with faculty member than were master’s students (M=4.0, SD=.57). The interaction between gender and degree level differed significantly on the relationships with faculty members, F(1, 70) = 5.672, p = .018. Male master’s (M=4.1, SD=.59) students showed the greatest satisfaction and female doctoral students (M=3.5, SD=.34) showed the lowest satisfaction with their relationships with faculty members in the program (see Table 2).

For research question four, ANOVA on the satisfaction with interactions with other students in the programs – with gender and degree level as independent variables – showed no significant difference between genders and no significant difference between degree levels. There was no significant gender difference according to degree level interaction on the satisfaction with interaction with other students in the program (see Table 2).

**Table 2. Analyses of Variance for Satisfaction with Three Factors**

<table>
<thead>
<tr>
<th>Factors</th>
<th>Quality of Instruction</th>
<th>Interaction with Faculty</th>
<th>Interaction with Students</th>
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<tr>
<td></td>
<td>df</td>
<td>F</td>
<td>P</td>
</tr>
<tr>
<td>Gender (G)</td>
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<td>.071</td>
</tr>
<tr>
<td>Degree (D)</td>
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<td>5.028*</td>
<td>.028</td>
</tr>
<tr>
<td>GXD</td>
<td>1</td>
<td>.01</td>
<td>.789</td>
</tr>
</tbody>
</table>

*: p < .05

**Discussion**

There are many reasons – noted above – for educational institutions in the United States to pursue and retain a diverse student body relating to international students. A key factor in this endeavor is the satisfaction the international students have with their academic experience. Therefore, the purpose of this study was to explore the satisfaction levels of international students in graduate sport management programs across the United States. Specifically, this study examined if satisfaction differed between genders and degree levels. The results showed that, overall, international graduate students in the sport management in the United States were satisfied with the quality of instruction they were receiving and the relationships they had developed with their faculty members. However, the results did show that international students had lower satisfaction levels related to their interactions with other students in their programs. It is not known if these lower satisfaction levels are related to personal biases or interpersonal issues.

With respect to gender, female international students showed
less satisfaction with their interaction with sport management faculty (although females reported lower satisfaction levels across all three dimensions, there was only a statistical difference with respect to the interaction with faculty). This finding is consistent with previous studies (Bean & Vesper, 1994; Hearn, 1985; Low, 2000; McNeil-Hite, 1985). McNeil-Hite (1985) found that female students reported a lack of collegial relationships with faculty members. Hearn (1985) also stated that female students were more attuned than were male students to the academic social climate—such as faculty/student interaction and availability of the faculty—in their satisfaction patterns. Furthermore, Manese et al. (1988) determined that female international students expressed higher levels of needs (i.e., seeking greater interpersonal assistance from others, such as advisors, faculty, etc.) than did male international students. Another possible explanation for the differences in satisfaction level between female and male students is that student satisfaction rates were higher when students were supervised by the same gender (Harman, 2003). In a study by Mahony, Mondello, Hums, and Judd (2004), 69.6% of the doctoral sport management program directors and advisors were men. Because male faculty frequently outnumber female faculty in sport management programs, this might be one possible explanation as to why female students’ satisfaction tends to be lower.

As for the relationship between degree levels and satisfaction, doctoral students showed less satisfaction with the relationship they had with faculty members and with the quality of instruction they received than did master’s students. This finding is consistent with previous studies. Harman (2003) found that the graduate students at entry levels tended to be more idealistic and less stressed while those graduate students who were near the end of the studies felt considerable pressure to do research and complete their dissertations. Furthermore, most of the master’s students in sport management programs are not required to write a thesis while the majority of the doctoral programs in sport management require an often lengthy and strenuous dissertation. Some programs “seriously encourage” and even require doctoral students to write and submit research activities for publication while going through the program. Working under the assumption that many doctoral students have no previous experience in writing research papers, it could then be assumed that they expect quality instruction and frequent interaction with their professors in order to obtain assistance and supervision in the completion of their dissertations and research papers. However, in some cases students may feel the faculty members are not providing as much assistance as the students had expected when they entered the program. Furthermore, lower satisfaction levels are frequently exhibited because students often feel their instruction was insufficient for their completing research and/or a dissertation (Harman, 2003).

Another possible explanation for satisfaction differences between educational levels relates to networking and career advancement. As noted by Feldman and Newcomb (1969), faculty have the most significant impact on career development. In the field of sport management, Jisha and Pitts (2004) found only 10 universities offered sport management doctoral programs. Therefore, with a relatively small community of scholars, faculty in the academic field of sport management tend to be more acquainted with each other than are the faculty in other fields. Such a structure affects students, especially those interested in pursuing faculty positions upon completion of their studies. This is often the case, as, according to Jisha and Pitts (2004), “the majority of students in sport management doctoral programs aspire to a career in college or university teaching” (p. 7). Satisfaction would appear to affect doctoral students in relation to networking and interacting with faculty as such activities play a role in both obtaining a teaching position (i.e., needing recommendation letters) and advancing in that position (i.e., collaborating with scholars) in the field.

The advantages of securing international diversity within a student body population are numerous. In addition to economic impact of attracting and retaining international students, other benefits of increased diversity in this area include heightened awareness of cultural sensitivities, increased knowledge of and ability to work with different backgrounds, and stronger appreciation for the competitiveness and perspectives accompanying globalization. Educational institutions that realize the advantages of such diversity seek to secure and retain international students. A key determinant of continued success in this pursuit is the students’ satisfaction levels. Therefore, this study examined the satisfaction international students in sport management had with their graduate studies in the United States. The focus of this research was on determining if the satisfaction levels of students differed between genders and degree levels (i.e., master’s and doctoral students). The three dimensions tested included satisfaction with the instruction received, satisfaction with the relationships developed with faculty members, and satisfaction with fellow students in the graduate program.

The study found there was a statistically significant difference in the satisfaction levels between master’s and doctoral students. Doctoral students showed less satisfaction with the quality of the instruction they received than did master’s students. Satisfaction levels related to relationships with faculty members differed between degree levels as doctoral students were less satisfied with their relationships with the faculty than were master’s students. Furthermore, satisfaction levels related to interactions with faculty members differed between genders as female students were less satisfied with their relationships with faculty members than were their male counterparts. The satisfaction with the interaction with other students in the programs showed no significant difference between either genders or degree levels.

The findings of this study have important implications for both the institutions that have and the faculty involved with graduate sport management programs. Because of the benefits of international diversity, it is important that educational institutions, administrators, and faculty continue to recruit and retain international students for their sport management programs. Because scholars such as Earwood-Smith and Colbert (1989) and Wyckoff (1998) have noted that retention rates improve as student satisfaction levels increase, one conclusion of this study is that sport management faculty and administrators should consider the satisfaction levels of their international students if they want to sustain an internationally diverse student body. Possible ways to address this concern and incorporate the findings of this study are through creating in each sport management program stronger
relationships and opening more vibrant communication channels that address the various international student needs revealed above. The assumption is that making a conscious effort to create a culture of satisfaction in international students will result in a stronger and more diverse student body and sport management workforce as the field continues to advance into the global business environment.

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References


An Examination of Southern Chinese Collegiate Leisure-Time Exercise Patterns

by Xiaofen Deng Keating, Yong Huang, Jianmin Guan, Mingying Deng, Longhui Zhu and Chuanwei Dwan

Abstract

This study aimed to examine the leisure time exercise (LTE) patterns of southern Chinese college students. Students from four representative colleges in a southern province (N = 1843) were study participants. A pre-validated “weekly leisure time exercise” questionnaire was translated into Chinese and then used to collect data. The LTE data were converted into an exercise index score, and differences in LTE were examined using ANOVA, simple MANOVA, and post hoc tests. It was found that physical inactivity was prevalent because 66.7% of the participants led a sedentary lifestyle. Student LTE levels declined after the second year in college and 1st and 2nd year students participated in significantly more total LTE than the 3rd and 4th year students, and the 4th year students were the least physically active group. Although for the most part student body mass index was within acceptable range, overweight students reported significantly less LTE. In addition, females were found less active than males. Regarding the most frequently performed exercises, soccer, badminton, and table tennis were the top three choices for strenuous and moderate exercises, while easy walking was the most common light exercise. Future college physical education program development, including both curricula and facility designs, needs to take into consideration student exercise preferences in order to effectively foster physically active graduates. It was concluded that promoting physical activity among Chinese college students is urgently needed and interventions should be implemented as soon as possible.

Disease prevention has recently become a top priority in public health. Physical inactivity has been identified as a risk factor for multiple health problems (U.S. Department of Health and Human Services [USDHHS], 1996, 2000). Lifestyle intervention studies have shown that physical activity (PA) behaviors (i.e., the levels and the patterns of PA) can be modified (Leslie, Fotheringham, Veitch, & Owen, 2000; Sallis et al., 1999). Despite implementing various PA intervention programs at all levels (e.g., communities/ workplaces, schools, and family) for years, and despite having recognized that physical inactivity is a serious concern to public health associations, it is still a great challenge to effectively change people’s PA behaviors (National Institute of Health [NIH], 1996; USDHHS, 2000). Research has also indicated that there is a steep decline in leisure-time exercise (LTE) and PA in young adulthood due to life transitions (Steven, Jacobs, & White, 1985). Thus, promoting PA among young adults has become a public health focus (Buckworth, 2001).

College students will be the potential future leaders, and they are a special subgroup of young adults, as their life transition is unique. They need to work on their advanced degree, while learning to live independently. PA patterns developed at this stage are very likely to be continued for a long period of time; hence, studying college student PA patterns is extremely important. Furthermore, college students can serve as role models of habitual participation in PA for the general population, and increased college student PA levels can significantly improve overall public health.

Of more importance, higher education is the last opportunity to physically educate a large segment of the young adults (Keating, Guan, Castro, & Bridges, 2005). As a result, researchers in many countries have attempted to investigate and intervene in college student PA (Leslie et al., 1999; Leslie et al., 2000; Martinez-Gonzalez et al., 2001). However, researchers and practitioners are puzzled that many college students still maintain a sedentary lifestyle (Pinto & Marcus, 1995; Wallace, Buckworth, Kirby, & Sherman, 2000). Hence, the American College Health Association (ACHA) has listed PA as an important health behavior in the Healthy Campus 2010 Campaign in order to promote PA among college students in the USA (American College Health Association, 2002).

While some western countries have been making efforts to modify collegiate PA behaviors, the People’s Republic of China (PRC) has not given enough attention to this group. Few studies on this topic have been reported in the PRC. Little is known about Chinese collegiate PA patterns, and few interventions have been
implemented. Compared to western countries, there are fewer public exercise facilities and health/fitness centers in the PRC. In addition, well-designed interventions implemented in communities and workplaces are hardly in existence. In essence, each individual is left to find the time and place to be physically active after he/she has left the education system. Therefore, it is critical to physically educate Chinese college students so that they can intentionally participate in adequate exercise throughout their lives and accrue PA health benefits.

In contrast to western countries such as the United States (US), most Chinese college students usually do not work part-time, and they all live on campus. Since their primary responsibility is to study, there is a strong tendency for students to adopt a sedentary lifestyle. As it has been well documented that physical inactivity can cause severe health problems, regardless of age, gender, and ethnicity (USDHHS, 1996, 2000), and with little information concerning Chinese college student PA levels available in the literature, there is a need to investigate this issue. Since understanding overall Chinese college student PA patterns is the first step to effectively preventing chronic diseases caused by physical inactivity, more descriptive studies on this topic are needed before effective interventions can be implemented.

Data concerning college student PA behaviors could be used as a basis for various, meaningful interventions to better prepare college students physically. Chinese college students represent a unique group of young adults in a world, where the cultural background and social system are different from those in western countries. Knowledge concerning Chinese college student PA patterns can shed light on the cultural and social impact of PA in the population. Moreover, information associated with Chinese college student PA could provide a possibility for multi-cultural comparisons of PA such that global intervention strategies might be developed.

Two basic concepts need to be addressed in order to help readers better understand this study. They are leisure-time exercise (LTE) and PA. The first term measures the amount and content of exercise; whereas, the latter is defined as any physical movements performed by an individual (USDHHS, 1996). LTE stands for exercises conducted for fitness/health or recreation purpose during spare time, such as playing basketball, volleyball, tennis (Godin & Shephard, 1985). Although these activities are merely a specialized form of PA, they are called exercise specifically because they are not formed through daily personal and professional duties. While PA is a broader concept than LTE, total PA is determined primarily by LTE as daily professional and personal duties are generally no longer labor-intensive (Saelens, Sallis, & Frank, 2003). Thus, LTE can substantially be used to change PA patterns.

For most college students in the PRC, LTE has been the principle form of their PA because almost all Chinese undergraduate students are single, live on campus, and primarily perform a sedentary task -- studying with limited family duties (Keating, Guan, Haung, et al., 2005). Therefore, it is reasonable to suggest that LTE is the primary PA Chinese college students perform. Given the subtle differences between PA and LTE, the terms have been used interchangeably in the literature (Buxton, Wyse, Mercer, & Hale, 1995; Dishman & Sallis, 1994; Keating, Guan, Haung, et al., 2005; Pate et al., 1995), the two terms were also used interchangeably in this study, although the focus of the study was actually on LTE.

The indices of duration (i.e., time) and intensity (i.e., percentage of maximum capacity) are often used to measure PA and exercise levels (i.e., amount). Total PA, which is the key index to PA health benefits, is difficult to assess due to differences in intensity. For example, the difference between walking and running for 10 minutes is the intensity. Thus, total PA cannot be the sum of the time for the two exercises because the health benefits of running 10 minutes are not the same as that of walking for 10 minutes. Hence, metabolic exercise intensity (MET) values have been used to sum exercises at various intensities (i.e., mild, modest, and vigorous) (Keating, Guan, Haung et al., 2005).

Research on PA among college students in western countries has primarily investigated LTE in order to better understand their PA behaviors (Tayor, Boudreaux, Jeffries, Scarinci, & Brantley, 2003; Wallace et al., 2000). As noted earlier, PA patterns consist of the amount and the content of PA. A number of studies have examined college student PA patterns in western countries (Behrens & Dinger, 2003; Caspersen, Pereira, & Curran, 2000; Dinger, 1999; Huang et al., 2003). The findings associated with total PA, however, were basically incomparable due to inconsistent PA measures reported in the literature (Keating, Guan, Castro et al., 2005). Overall, despite differing use of PA indices, about 40-50% of college students were classified as physically inactive (Leslie et al., 1999; Leslie et al., 2000; Pinto & Marcus, 1995; USDHHS, 1996; Wallace et al., 2000). PA differences with regard to demographic variables of age, gender, year in higher education, and ethnicity have been commonly explored. As might be expected, students under 30 years were engaged in more vigorous activities than those who were over 30 years (Leslie et al., 1999). However, conflicting findings of PA differences by gender were reported in the literature (Behrens & Dinger, 2003; Huang et al., 2003; Stock, Wille, & Krämer, 2001). With respect to years in higher education, it has been reported that PA levels decline as years in college increase (Calfas, Sallis, Lovato, & Campbell, 1994; Huang et al., 2003; Pinto & Marcus, 1995), which suggests that higher education has failed to effectively promote PA among students. With regard to ethnicity, it has been reported that more than one-third of African-American students were not physically active (Fahey, Insel, & Roth, 1999). In addition, Asian and African students reported less PA than their White and Hispanic counterparts (Suminski, Petosa, Utter, & Zhang, 2002).

Although it has not received the same attention as PA levels, a complete understanding of PA patterns must include PA content. To understand PA content, PA preference was usually investigated. It was found that males tended to prefer weight lifting and team sports, whereas, females were more interested in aerobics, dance, and yoga (Leslie et al., 1999; Stone, Strikwerda-Brown, & Gregg, 2002; Pinto & Marcus, 1995). Interestingly, the most commonly performed PA -- walking -- was not popular among college students in the United States (Pinto & Marcus, 1995). In addition, unlike many other adults who hold a full-time job, college students were not “weekend warriors”, and they were more physically active on weekdays than on weekends (Behrens & Dinger, 2003). It is important to note that higher education in western countries has not made significant efforts to reform college physical education programs utilizing the above research findings. This suggests
the endeavor of promoting PA among college students is still in its infancy based on the observation that few studies on college physical education program modifications have been reported in the literature.

Although researching PA patterns provides fundamental information related to individual PA behaviors, no data on Chinese college student PA were reported in the literature. In fact, little effort has been made to improve college student PA in PRC. The lack of the baseline data undermines any attempts to either understand or promote PA among Chinese students because no guidelines are available for intervention programs. Basic knowledge concerning this issue remains unknown. Therefore, this study aimed to examine PRC collegiate LTE patterns. The LTE differences in gender and year in university were also investigated given those variables have been examined in western countries.

Unlike most western countries, the age variation of Chinese college students in the same class was usually less than two years because they uniformly enter universities at the same time. The maximum age difference among the participants was only seven years, and they were all young adults. Hence, the age variable was not tested. On the other hand, student body mass index (BMI) and LTE was examined, although it has not been commonly investigated in the literature. However, BMI might have an influence on student LTE, as those who are overweight might have less LTE than those who have acceptable BMI. This type of information is important for any PA promotion attempts.

It is hoped that this study will stimulate more research on this topic and provide underlying data for further studies on college student LTE/PA in the PRC. It is also hoped that the results of the study will catch the attention of Chinese public health associations so that more effort will be devoted to a pervasive, global, public health problem -- a propensity for being overweight, obese, underactive, or inactive, particularly in a population in which public health institutions, and in many ways mass culture, rigorously promote healthful alternatives.

Methods

Participants/Setting

Full-time college students living in student dormitories on campus from four state universities in a southern province participated in this study. They were selected using the following strategies in order to ensure acceptable representativeness. Four provincial universities, which were appointed as key universities in the province by China’s national department of education, were selected as typical regional universities in China on the basis of campus physical structures (i.e., exercise facilities, transportation systems, and layout of campus) and general requirements for graduation. At each university, one entire class (not simply individual students) from each department at the four universities was randomly selected using a list of classes offered in the 2002 spring semester. Because the Education Department of China has overall control of regional universities across China, there are only small variations in student populations, campus physical structures, and curricula.

From the sample of participants selected (N = 1843), 55.3% were males, and 44.6% were females. The average age of the participants was 20.61 years, ranging from 17 to 24 years. The percentages of freshmen (i.e., first year at university), sophomore (i.e., second year at university), junior (i.e., third year at university), and senior (i.e., fourth year at university) were 25.3%, 25.9%, 25.1%, and 23.7%, respectively. More detailed information concerning the participants and data collection is available in the literature (Keating et al., 2005) [Note: I changed this reference based on the APA style 5th ed.].

Measures

The pre-validated weekly leisure-time exercise questionnaire (LTEQ) (Godin & Shephard, 1985) was used to measure LTE. The LTEQ measures weekly exercise events, and the corresponding intensity (i.e., what and how exercise is performed) can be assessed. The underlying assumption of the LTEQ is that each individual’s one-week PA pattern reflects general PA behavior. Exercises are grouped into three exercise categories based on intensity: strenuous, moderate, and mild/light. Any exercise lasting for more than 15 minutes is recorded. As noted earlier, the durations of exercises with different intensities are not simply additive. Therefore, a commonly used exercise index score – which is computed by multiplying the frequency of each exercise category by its metabolic (MET) value – was used to calculate the total amount of PA (Keating et al., 2005). Specifically, the total weekly leisure-time exercise (TLTE) index score was calculated using the weighted sum of the MET value from each of the three exercise categories. The exercise categories of strenuous, moderate, and mild/light are weighted by a factor of nine, five, and three, respectively (Keating et al., 2005). Therefore, the variables representing PA were TLTE, strenuous LTE (SLTE), moderate LTE (MLTE), and mild/light LTE (LLTE).

The English version of LTEQ has demonstrated acceptable reliability and validity in different samples (Godin, Jobin, & Bouillon, 1986; Jacobs, Ainsworth, Hartman, & Leon, 1993). Most exercises are included in the questionnaire, such as basketball, volleyball, fast walking, jogging, etc. Participants were asked to circle each exercise lasting at least 15 minutes they performed and to record the number of times per week. In addition, an “other” option was included at the end of each exercise category allowing participants to add any exercises that are not listed in the scale and resulting in the potential inclusion of any exercise. Given that all exercises listed in the scale are performed similarly across countries in the world, it was suggested that the scale is valid across all cultures and regions (Keating et al., 2005).

The English version of the scale was first translated into Chinese. Then, seven Chinese-American tenure track or tenured full-time faculty members in departments of kinesiology and/or health in the United States served as experts to verify the accuracy of the translation. The experts were all born in China and got their Ph.D. in kinesiology/health in the United States, ensuring expert proficiency in both language and subject content. The Chinese version of LTEQ was packaged as a survey, including basic demographic questions (e.g., age, gender, year in college, weight, and height). A total of 200 college students at one of the four universities were asked to participate in validation (i.e., pilot study) of survey feasibility and accuracy. Because students in the pilot study reported new exercises, there was a need to add those to the survey instrument. It was decided that the new exercises should be included in the Chinese version of the LTEQ if more than five
students participated in those exercises. As a result, weight lifting, step-aerobics, stair climbing, and wushi (a Chinese martial art) were added to the exercise categories of moderate and mild/light in the LTEQ. The option designated “other” was still retained within each exercise category in the final survey instrument.

To begin the survey, basic demographic data such as gender, age, year in college, height and weight were collected. Given that students just completed the annual standardized fitness testing one week before data collection of this study, during which their weight and height were measured by physical education instructors using valid measurements, it was deemed appropriate to use the self-reported method to collect student height and weight data. Unlike some provinces in PRC, the surveyed province does not have students of different ethnic races. Thus, ethnicity was excluded.

**Procedures**

As there is no formal practice of institutional review of the ethical treatment of human subjects in the PRC at the present time, informed consent forms were not used in the study. However, the general procedures for research with human subjects as required in the U.S. were followed. An informative cover letter concerning the purposes and the procedures of the study was given to participants before any data were collected. For confidentiality, student names were not used at any time. The participants were also informed that they could withdraw their participation in the study at any time without penalty. Instructors of the selected classes were asked to solicit student participation over of four-week period from April to May in order to avoid the busy beginning of the spring semester and to control for a possible seasonal influence on LTE. Weather from April to May is usually constant and is one of the best seasons for outdoor activities in the province. Thus, it is very unlikely that student PA levels could be underestimated. Instructors administered the survey at the end of a class session, collected the results, and returned the completed surveys to investigators. In total, 1914 surveys were distributed, and 1843 were used in this study, for a return rate of 96.3%.

**Data Analysis**

Means, standard deviations, and percentages of demographic data were calculated. LTE data were derived from the information measured by the LTEQ. Descriptive statistics were performed to provide a summary of LTE such as TLTE, SLTE, MLTE, LLTE, and the total times of LTE (i.e., T-times), times of SLTE (i.e., S-times), MLTE (i.e., M-times), and LLTE (i.e., L-times).

A total LTE scores of 30, which was equal to participating in LLTE 10 times for at least 15 minutes per week (or five times for at least 30 minutes weekly), was set as the minimum amount of TLTE for keeping sound health. This criterion was chosen based on the recommended amounts of PA by the Department of Education of China (2000) as well as by Healthy People 2010 (USDHHS, 2000).

Self-reported weight and height data were used to calculate BMI using the Quetelet Index (body weight in kilograms divided by his or her height in meters squared). BMI was initially grouped into four categories using the guidelines recommended by the Obesity Education Initiative (1998). Under these guidelines, a BMI scores less than 20.0 is “underweight”; a BMI score from 20.0 to 24.44 is “acceptable”; a BMI score from 24.45 to 29.44 is “overweight”; and a BMI score greater than 30 is “obese”. Because there were few participants (n = 4) with BMI scores greater than 30, BMI scores greater than 25 were simply grouped as “unacceptable” for the purpose of the study.

Since variables with multicollinearity (e.g., TLTE and T-times in the study) should not be used in multivariate analyses of variance (MANOVA) (Vincent, 1995), one-way ANOVA and post hoc tests (Tukey HSD) determined differences in TLTE for BMI and year in college. Independent t-test was used to determine differences in gender. Simple MANOVA and post hoc tests (ANOVA) were used to investigate differences across intensity of exercise – SLTE, MLTE, and LLTE – for year in college, gender, and BMI, respectively. A p value < .05 was considered significant.

**Results**

**TLTE Patterns**

Because of the use of LTE index scores, it was possible to investigate student TLTE patterns. As noted earlier, TLTE patterns consist of amount and the content of PA. Therefore, student TLTE levels were reported first, followed by TLTE differences across demographic variables. In order to better understand PA patterns, the frequency of TLTE participation was also reported. Finally, data concerning exercise events performed by students were presented.

Student TLTE levels and differences in year in college, BMI, and gender. The average TLTE index score was 24.34 (SD = 21.76), which was less than the minimum of 30 LTE recommended by the Healthy People 2010 (USDHHS, 2000). A further examination revealed that two thirds (66.7%) of the participants did not participate in a minimum index score of 30 LTE. In fact, 11.8% of the participants reported no LTE per week.

The result of ANOVA indicated that TLTE was significantly different across year in college ($F_{(2, 1842)} = 151.73, p < .001$) and BMI ($F_{(2, 1842)} = 35.84, p < .001$), respectively. Post hoc tests indicated that freshmen and sophomores had significantly more TLTE than juniors and seniors; seniors had the least amount of TLTE; and there was no significant TLTE difference between freshmen and sophomores (see Table 1). Regarding BMI, a significant difference existed between underweight and unacceptable groups. The underweight group had the greatest TLTE (see Table 2). Gender difference in TLTE was also found. Independent t-test revealed that male students reported significantly more TLTE than their female counterparts ($t_{(1841)} = 7.1, p < .001$) (see Table 3). The frequency of participation in LTE was 4.39 (SD = 3.88), which is less frequent than what was recommended in Healthy People 2010 (i.e., preferably daily) (USDHHS, 2000).

Most frequently performed exercise events. As might be expected, almost all listed exercises were checked by the students, suggesting students’ interests in exercises varied greatly. The most frequent LTE for the participants was easy walking; and badminton and basketball were the most frequent MLTE and SLTE, respectively. Only slight gender differences existed in the selection of LTE at the moderate and strenuous levels. Surprisingly, wushu and tai chi, which are traditional Chinese activities, were not the most commonly performed exercise events. Refer to Table 4 for the list of most frequent LTE by gender.
Simple MANOVA indicated significant differences in SLTE, MLTE, and LLTE by year in college ($\Lambda = .79$, $F(3, 1837) = 51.58$, $p < .01$). Post hoc tests indicated that juniors’ and seniors’ involvement in SLTE, MLTE, and LLTE was significantly less than that of freshmen and sophomores. There was no significant difference in SLTE, MLTE, and LLTE at various intensity levels and frequencies between freshmen and sophomores (see Table 1).

**SLTE, MLTE, and LLTE by BMI.** Simple MANOVA indicated significant differences across levels of BMI ($\Lambda = .96$, $F(6, 3676) = 13.54$, $p < .01$). Post hoc tests identified that the underweight group had significantly more LLTE than the other two groups. Moreover, this group also had significantly more SLTE than the acceptable BMI group (see Table 2).

### Table 1. Means and Standard Deviations of Leisure Time Exercise Scores and Differences in Year in College

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>Freshman</th>
<th>Sophomore</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Times(SD)</td>
<td>LTE score(SD)</td>
<td>Times(SD)</td>
</tr>
<tr>
<td>SLTE</td>
<td>1.20(1.55)</td>
<td>10.79(13.93)</td>
<td>1.55(1.62)</td>
</tr>
<tr>
<td>MLTE</td>
<td>1.44(1.75)</td>
<td>7.22(8.75)</td>
<td>1.84(1.84)</td>
</tr>
<tr>
<td>LLTE</td>
<td>1.81(2.27)</td>
<td>6.33(7.96)</td>
<td>2.56(2.47)</td>
</tr>
<tr>
<td>TLTE</td>
<td>4.45(3.94)</td>
<td>24.34(21.76)</td>
<td>5.95(4.09)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Times(SD)</td>
<td>LTE score(SD)</td>
</tr>
<tr>
<td>SLTE</td>
<td>1.25(1.56)**</td>
<td>11.21(14.05)**</td>
</tr>
<tr>
<td>MLTE</td>
<td>1.64(1.91)**</td>
<td>8.19(9.53)**</td>
</tr>
<tr>
<td>LLTE</td>
<td>1.51(2.24)**</td>
<td>5.27(7.84)**</td>
</tr>
<tr>
<td>TLTE</td>
<td>4.39(3.88)**</td>
<td>24.66(21.60)**</td>
</tr>
</tbody>
</table>

Note: 1, 2, 3, & 4 represent freshman, sophomore, junior, and senior, respectively.

** p <0.01

### Table 2. Means and Standard Deviations of Leisure Time Exercise Scores by Body Mass index (BMI)

<table>
<thead>
<tr>
<th>Category</th>
<th>Underweight</th>
<th>Acceptable</th>
<th>Unacceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLTE</td>
<td>T-times</td>
<td>5.94(4.19)</td>
<td>4.03(3.76)</td>
</tr>
<tr>
<td></td>
<td>TLTE score</td>
<td>32.25(23.30)**</td>
<td>22.01(20.68)**</td>
</tr>
<tr>
<td>SLTE</td>
<td>S-times</td>
<td>1.56(1.74)</td>
<td>1.08(1.46)</td>
</tr>
<tr>
<td></td>
<td>SLTE score</td>
<td>14.00(15.64)**</td>
<td>9.74(13.15)**</td>
</tr>
<tr>
<td>MLTE</td>
<td>M-times</td>
<td>1.95(1.96)</td>
<td>1.31(1.66)</td>
</tr>
<tr>
<td></td>
<td>MLTE score</td>
<td>9.74(9.82)**</td>
<td>6.54(8.30)**</td>
</tr>
<tr>
<td>LLTE</td>
<td>L-times</td>
<td>2.41(2.48)</td>
<td>1.64(2.16)</td>
</tr>
<tr>
<td></td>
<td>LLTE score</td>
<td>8.42(8.69)**</td>
<td>5.73(7.57)**</td>
</tr>
<tr>
<td>Total(%)</td>
<td>405(22.0%)</td>
<td>1378(74.8%)</td>
<td>60(3.3%)</td>
</tr>
</tbody>
</table>

Note: 1, 2, & 3 represent underweight, acceptable, and unacceptable, respectively. BMI scores greater than 25 were grouped as “unacceptable”.

** p <0.01
**SLTE, MLTE, and LLTE by gender.** Simple MANOVA indicated that significant SLTE, MLTE, and LLTE differences between males and females were present [$\Lambda = .87, F(3, 1839) = 94.39, p < .01$]. Post hoc tests indicated that males tended to participate in significantly more SLTE than females; whereas, females participated in more LLTE than males. No gender difference in MLTE was found (see Table 3).

### Discussion

This study marks the first investigation of collegiate student LTE in the PRC. A strength of this study is that it provides detailed information needed to understand student LTE patterns using an exercise index. This study was not designed to compare PA levels between Chinese and American college students; however, comparisons can be made through the literature. And similar to findings in the U.S., physical inactivity is also prevalent among Chinese college students. More alarmingly, college student PA levels decline dramatically after the second year in college, suggesting the failure of college physical education programs to foster physically active graduates. Given that higher education is the last chance to educate students concerning their PA behaviors, the results from the study call for serious action on improving college student PA behaviors.

### Amounts of TLTE Needed to Keep Sound Health

How much TLTE (i.e., PA) is needed in order to keep sound health is the first question that has to be answered in research on PA behaviors. Otherwise, it is difficult, if not impossible, to determine whether student PA levels are adequate. After years of debate on this issue, public health authorities such as the USDHHS (2000), the American College of Sport Medicine (American College of Sport Medicine [ACSM], 1998), and the Department of Education of China (2000) have issued position statements for adequate amounts of PA to maintain sound health. A few studies in the U.S. have compared college student PA levels with the recommended amounts of PA to determine whether students’ PA levels were sufficient (Dinger, 1999; Sullum, Clark, & King, 2000). Therefore, the appropriateness of the recommended PA levels is critical to the quality of research on this topic.

This study used the recommended amounts of PA set by Healthy People 2010 (USDHHS, 2000) -- at least 30 minutes of moderate PA on a regular basis, preferably daily -- as a guide to create the criterion to determine Chinese student TLTE. Specifically, a TLTE score of 30 (i.e., six moderate exercise occasions weekly) was deemed as appropriate for the minimum amount of PA to maintain sound health. As noted earlier, PA is a broader concept than LTE. Therefore, the total of 30 LTE scores per week would ensure meeting the recommended margins for maintaining sound health in the Healthy People 2010 (USDHHS, 2000). Furthermore, given that the China’s Department of Education (2000) has also strongly promoted 30 minutes of PA daily among students, it is reasonable to suggest that a TLTE score of 30 can also be applied to Chinese college students, regardless of differences in diet and race across cultures.

### Student TLTE Patterns

**TLTE patterns.** About half of the participants had inadequate TLTE for sound health, based on the standards in Healthy People 2010 (USDHHS, 2000). There was a lack of both frequency and intensity of LTE participation. The data from this study indicated that the percentage of Chinese college students with less than adequate PA is relatively high (66.7%). By comparison, only about 30 - 40% of U.S. college students were reported with less than adequate PA (Buckworth, 2001). Therefore, the PRC college students need help to develop habitual LTE patterns.

Unlike some U.S. college students, who enter college at later stages in life, in China college students nearly always enter directly after high school, are away from their parents, and are living on campus. Similar to what has been previously suggested, finding time for LTE or time management may also be a great challenge for Chinese college students (Buckworth, 2001). There is an urgent need to examine why about two thirds of surveyed Chinese college students did not participate in adequate amounts of LTE. Academic and health professionals should pay more attention to this special group who go through dramatic lifestyle changes, with the goal of implementing effective intervention programs to help students prevent a decrease in LTE.

**Frequently participated LTE.** The most frequently participated LTE had Chinese/Asian cultural characteristics to a certain degree, but still suggested similarities with other cultures. Popular across the world, many male students chose basketball as their first choice of LTE had Chinese/Asian cultural characteristics to a certain degree, but still suggested similarities with other cultures. Popular across the world, many male students chose basketball as their first choice of LTE.

### Table 3. Means and Standard Deviations of Leisure Time Exercise Scores by Gender

<table>
<thead>
<tr>
<th>Category</th>
<th>Male Times(SD)</th>
<th>Male LTE score(SD)</th>
<th>Female Times(SD)</th>
<th>Female LTE score(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLTE</td>
<td>1.65(1.60)**</td>
<td>14.86(14.44)**</td>
<td>0.64(1.27)**</td>
<td>5.75(11.42)**</td>
</tr>
<tr>
<td>MLTE</td>
<td>1.43(1.72)</td>
<td>7.13(8.62)</td>
<td>1.47(1.78)</td>
<td>7.35(8.91)</td>
</tr>
<tr>
<td>LLTE</td>
<td>1.59(2.19)**</td>
<td>5.55(7.65)**</td>
<td>2.08(2.35)**</td>
<td>7.29(8.22)**</td>
</tr>
</tbody>
</table>

**p <0.01

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(volume 1, issue 2          23)
were the most frequent MLTE exercises by both males and females. Although wushi, which includes tai chi, is a very popular exercise among Chinese in general, college students seemed less interested in it. Walking was the preferred LLTE, with a high rate of 50% of Chinese college students indicating this preference (see Table 4). It is not completely clear why Chinese college students preferred walking. However, walking may also be used as a primary means of commuting, given that most Chinese college students do not have a car.

The college physical education program curricula design can take into consideration the results from this study to offer activity classes that students would enjoy. Unlike K-12 programs, college physical education is the last chance to educate students to be physically active, rather than focusing on mastery of exercise or sport (Keating et al., 2005). Therefore, college physical education programs should promote those activities in which students can still take part after graduation from college and for a lifetime. In addition, the findings of the study can also be used to provide guidance for campus fitness and exercise facility development. For example, it is reasonable to suggest building more facilities for basketball, table tennis, tennis courts, and easy walking, as many students enjoyed those exercises most.

**Influences of Demographic Variables on TLTE**

**Year in college.** Like that in most countries, physical education in higher education is also designed to help students develop habitual PA patterns (National Sports and Physical Education Committee & The National Education Department of China, 2001). If effective, it is logical to expect students to improve their LTE levels as years in college increase. The data from the study, however, indicated that there is a decline of TLTE after the second year in college. In fact, juniors and seniors performed the least TLTE (7.87), which is well below the recommended index score of 30. Although no specific data are available to explain the cause of the above observations, mandatory physical education for the first two years of college may have played a role in keeping freshmen and sophomores more physically active. This is further supported by the observation that second year students had the highest level of LTE. Previous studies have provided evidence that PA classes at college level have a positive influence on student PA behaviors (Sallis et al., 1999; Slava, Laurie, & Corbin, 1987). Because all college PA classes in the PRC primarily focused on providing students time for PA with an emphasis on learning sports skills, fitness, PA, and exercise adherence was not emphasized, and can suggest an explanation for why juniors and seniors participate in less TLTE. Further research is needed to investigate the role of higher education on college student exercise adherence.

Although it is not the focus of this study to examine the efficacy of fitness testing in higher education, it is necessary to note that there is a need to investigate the current practice of fitness testing in colleges in the PRC. Unlike some other countries, college students in the PRC are required to pass annual fitness testing for four years, the results of which are used for college graduation in order to encourage students to maintain sound health (Keating, Huang, Deng, & Qu, in press). The data from this study, however, suggests that college students are not motivated by fitness testing

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### Table 4. The Five Most Often Participated Events in Strenuous, Moderate, and Mild Exercise by Gender

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th></th>
<th>Female</th>
<th></th>
<th>Male</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N(%)</td>
<td>Rank</td>
<td>N</td>
<td>Rank</td>
<td>N</td>
<td>Rank</td>
</tr>
<tr>
<td><strong>Strenuous Exercise</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basketball</td>
<td>422(22.9%)</td>
<td>1</td>
<td>82</td>
<td>2</td>
<td>340</td>
<td>1</td>
</tr>
<tr>
<td>Running</td>
<td>315(17.1%)</td>
<td>2</td>
<td>119</td>
<td>1</td>
<td>196</td>
<td>3</td>
</tr>
<tr>
<td>Soccer</td>
<td>264(14.3%)</td>
<td>3</td>
<td>15</td>
<td>4</td>
<td>249</td>
<td>2</td>
</tr>
<tr>
<td>Aerobic</td>
<td>23(1.2%)</td>
<td>4</td>
<td>16</td>
<td>3</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Roller skating</td>
<td>21(1.2%)</td>
<td>5</td>
<td>8</td>
<td>5</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td><strong>Moderate Exercise</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Badminton</td>
<td>307(16.7%)</td>
<td>1</td>
<td>153</td>
<td>1</td>
<td>154</td>
<td>1</td>
</tr>
<tr>
<td>Table tennis</td>
<td>235(12.8%)</td>
<td>2</td>
<td>90</td>
<td>3</td>
<td>145</td>
<td>2</td>
</tr>
<tr>
<td>Fast-walking</td>
<td>225(12.2%)</td>
<td>3</td>
<td>99</td>
<td>2</td>
<td>126</td>
<td>3</td>
</tr>
<tr>
<td>Volleyball</td>
<td>166(9.0%)</td>
<td>4</td>
<td>70</td>
<td>5</td>
<td>96</td>
<td>4</td>
</tr>
<tr>
<td>Easy-bicycle</td>
<td>162(8.8%)</td>
<td>5</td>
<td>75</td>
<td>4</td>
<td>96</td>
<td>4</td>
</tr>
<tr>
<td>Social Dance</td>
<td>3(0.2%)</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td><strong>Light Exercise</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy-walk</td>
<td>924(50.1%)</td>
<td>1</td>
<td>475</td>
<td>1</td>
<td>449</td>
<td>1</td>
</tr>
<tr>
<td>Bank-fishing</td>
<td>23(1.2%)</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Wushi</td>
<td>22(1.2%)</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>Yoga</td>
<td>12(0.7%)</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Bowling</td>
<td>11(0.6%)</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

Note: Due to missing data, the sum of some categories did not add up to the total of the category.
to participate in adequate LTE once mandatory classes are no longer required.

**BMI.** It is a common practice to use BMI to estimate the total percentage of fat in the general population (ACSM, 2000), even though this index cannot separate fat and muscle to a certain degree (Fahey et al., 1999). Because average college students in the PRC were not highly trained athletes with bulky muscles, it was believed that BMI was an acceptable index for examining the percentage of body fat in this population. Under this assumption, it has been reported that BMI is a valid index to indicate most risk factors for coronary heart diseases (CHD) (ACSM, 2000). The risk for developing CHD is high when the BMI is above 25 among samples in western countries (Fahey et al., 1999). Unfortunately, no specific BMI criterion for Chinese students is available, and it remains unknown if the criterion is appropriate for Chinese in general when considering possible differences in race and culture. Therefore, BMI standards used in the U.S. were adopted in the study; and as a result, the results of the BMI should be interpreted with caution.

The data from the study indicated that most students’ BMI (96.7%) was within the acceptable range (see Table 2), which was consistent with the national data, in which the average BMI of college male and female students were 20.71 and 20.19, respectively (Department of Education of China, 2000). This suggests that some students with inadequate amounts of TLTE may not be overweight or obese (i.e., unacceptable) in PRC using BMI standards established elsewhere. Thus, when promoting LTE among southern Chinese college students, weight control may not as effective. Although obesity did not appear to be a severe problem in this group, participation in adequate amounts of TLE still has important health-related benefits. Research has shown that any kind of PA can reduce numerous health risks (USDHHS, 1996, 2000), regardless of age, gender, and ethnicity. The result that underweight students had significantly more TLTE than those who were overweight suggests that PA promotion is urgently needed among those who are classified as being overweight.

**Gender.** Similar to findings in the U.S. (Dinger, 1999), female students participated in less LTE than males. Because none of the students were married or with children, and the living environment is approximately the same for both genders, differences in PA related to domestic activities can be eliminated. Thus, the data from this study suggests that family and environmental factors do not contribute to the difference of PA in gender among Chinese college students. A careful examination of PA differences by gender indicated that females had significantly less SLTE and more LLTE than their male counterparts (see Table 3). When gender differences are considered with the data of the most frequently performed LTE by gender (see Table 4), it can be suggested that most females just took part in the most basic forms of LTE (walking and running), while males participated in more sports-related LTE resulting in greater amounts of SLTE. Further studies are needed to specifically investigate the causes of the above phenomena.

**Conclusions and Directions for Future Research**

As in many western countries, a large number of Chinese college students maintain a sedentary lifestyle. Physical inactivity has become a significant problem among southern Chinese college students. Although many health problems usually do not occur among young adults, the potentially high risk for poor health associated with an unhealthy lifestyle begins at a very young age. Therefore, every effort is needed to prevent possible health problems as early as possible. College students represent a unique young-adult population who, as potential leaders in society in the PRC, warrant more attention toward their PA patterns from PA and health professionals.

Unfortunately, research has mostly ignored the role of PA in improving college student health in the PRC. Furthermore, no specific attempts have been made to promote PA among college students. Therefore, this study is particularly important as it provides empirical data concerning southern Chinese student LTE patterns. The results of this study indicated that two-thirds of the participants (66.70%) did not participate in adequate amounts of PA as recommended by public health organizations in the U.S. and PRC. And, unfortunately, there was a significant decline of PA levels in the third and fourth year of study in higher education, suggesting that student PA behaviors by year in college warrant serious attention. Special attention should be given to the role of college physical education on fostering physically educated students, as students did not maintain their PA levels after the first two years of mandatory physical education. In contrast to the U.S., only a small percentage of students (3.3%) were actually classified as being unacceptable (i.e., overweight and obese) by the Quetelet Index (BMI) and the standards set for American adults. This might suggest that weight control is not a primary purpose for promoting PA among Chinese college students. Caution, however, is needed when interpreting the finding concerning BMI generated by the study. Finally, female students had significantly lower PA levels than their male counterparts, with large differences in the SLTE. Interventions emphasizing females are warranted.

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**References**


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by Steven Wright, Michael McNeill, Steven Tan, Clara Tan, Joan Fry and Paul Schempp

Abstract

In this study, 58 potential and/or practicing cooperating teachers were trained in effective mentoring of student teachers. Data were collected in the first (mentor training) phase of the study through the use of four questionnaires. This information allowed the researchers to determine demographic details, participant expectations of the training workshop, perceived needs of participants and their impressions of the workshop upon completion. In the second phase, interviews were conducted with 17 participants who had completed training and were serving as cooperating teachers. Data were analyzed through constant comparison of survey and interview questions to determine emerging themes. Results from the pre-workshop survey revealed that participants wanted to learn skills that would assist them in becoming effective mentors. After the training, participants reported that hands-on experiences such as analyzing a case study, coding videotaped lessons using systematic observation instruments, and role playing post-observation conferences were valued most as preparation for mentoring student teachers. The majority of participants in the second phase of the study expressed positive feelings related to their involvement with a student teacher. In particular, participants reported very rewarding post-lesson observation conferences with their student teachers that generated reflective thinking and sharing of ideas.

Implications for Faculty Development

The significance of student teaching (also known as fieldwork, practicum, or internship), from the perspectives of teacher education students and full-time teachers, has been documented in both general education (Guyton & McIntyre, 1990), and more specifically physical education (Chow & Fry, 1999; Wright, 2001a) literature. However, questions arise as to the efficacy of student teaching experiences. As summarized by McIntyre, Byrd, and Foxx (1996), critics have suggested that field experiences are often disconnected from student teachers’ (STs) coursework as a result of teacher education (TE) programs without a central focus, theme, or model. During the practicum experience, STs work on-site with full-time teachers, also known as cooperating teachers (CTs). The messages STs receive from CTs often differ from the content experienced at the university. For example, if STs learned to implement a tactical, constructivist approach to teaching games emphasizing small-sided game play (McNeill et al, 2004), problems would arise if their CTs were unfamiliar with this approach and advised them to utilize the traditional skills-based approach to learning. Research suggests that efforts must be made to alleviate conflict between what the university wants STs to learn and what CTs want them to practice (Tjeerdema, 1998).

Analyses of student teaching experiences are also affected by relationships among the ST, CT, and the university supervisor (US). Investigations into these experiences often study the quality of interactions between these parties. Research suggests that USs may have less impact on STs than their CTs (Bain, 1990). The greater influence of CTs could be due to the fact that they have daily interactions with STs during the practicum. Unfortunately, the relationship between the ST and CT is not without potential difficulties. For instance, Askins and Imwold (1994) reported that CTs and STs often have differing perceptions of the goals and objectives of physical education and disagree about each other’s roles during the practicum.

Several studies have also found that CTs often provided limited or incomplete supervision of STs, because they were not trained in developmental supervision or the systematic observation of STs (Rikard & Knight, 1997; Rikard & Veal, 1996; Tannehill & Zakrajsek, 1990). Research suggests that CTs should be engaged in systematic training in the area of developmental supervision (Boydell, 1991; Giebelhaus & Bowman, 2002). As Rikard and Veal (1996) have indicated, some physical education teacher education (PETE) programs have tried to bridge the gap between STs’ university training and CTs’ lack of understanding of their STs’ PETE background. Unfortunately, the application of CT training has, at best, been limited, and investigations into the efficacy of mentoring programs are almost non-existent.

The findings reported here were part of a larger investigation that examined three aspects: 1) STs’ implementation of a tactical, constructivist approach to teaching games, also known as the games concept approach (GCA), as reported by McNeill et al, (2004), 2) the role that the CTs played in the process, and 3) the pupils’ perceptions of the GCA (Fry & Tan, 2001). Some of the issues and problems that arose were that many CTs were not comfortable in their role, or in advising STs on their use of the GCA in their teaching. This was significant as all of the STs were required to teach games via the GCA. Many CTs expressed a desire to be trained to improve their effectiveness (Wright, 2001b). Therefore, workshops were planned and implemented that trained CTs to become effective mentors and to further understand and experience the teaching of games through a tactical approach (GCA). Throughout this study the terms mentor and CT are used interchangeably. The researchers and previous authors (Tannehill, 1989; Tjeerdema, 1998) believe that the roles of mentors and CTs are similar. For example, Awaya et al (2003) state that “the role of the mentor as opposed to that of a co-operating teacher is increasingly viewed as important in the process of guiding student teachers’ work in the field” (p. 45). The authors suggest that mentoring should be viewed as a relationship rather than a role.

The purpose of this study was to examine the participants’ (current and prospective CTs) perspective of the efficacy of the training they received. Specifically, the researchers set out to answer the following questions: (a) What were the participants’ expectations of the workshop? (b) What were their impressions after the workshop? and (c) What were the implications of the mentor training on the CTs?
Method

Participants

All local district physical educators with at least three years of teaching experience were given information on the workshops if they were interested in becoming, or continuing to be, a CT. Novice teachers with less than three years of experience are not given the opportunity to be a CT as they themselves are not experienced. While CT attendance was not required at the workshop, it was recommended. There were originally 67 teachers who registered for the workshops, but only 58 completed all sessions. (Illness and employer call-backs restricted participation of the nine who did not complete the workshop.) Therefore, in Phase 1 of the study, data were analyzed on the 58 subjects who completed the entire workshop—this included 25 women and 33 men.

Overall, the participants’ teaching experience averaged 10 years and the majority were secondary teachers (n=35). Forty were “experienced” CTs as they had previously supervised an average of three STs. The others were classified as “inexperienced” because they had never fulfilled the CT role. Four of the participants had previously attended a workshop on generic classroom mentoring; none of the other participants had any formal training as a mentor or cooperating teacher. Ultimately, the Phase 2 cohort was comprised of the 17 workshop participants (11 men and six women) who were subsequently engaged as a CT.

Data Sources

Questionnaires. In Phase 1, data were collected through a series of four written surveys—one was administered twice for pre- and post-workshop analysis. Participants completed the first questionnaire approximately two weeks prior to the training workshop. Demographic information was collected, as well as information on participant knowledge and experience with the GCA and/or mentoring. The final item of the survey elicited their mentor training (MT) workshop goals.

The second and third questionnaire, “Needs Assessment Questionnaire for Mentors” (Gordon, 1999), was administered twice: pre-workshop (after attendance was taken on the first day) and post-workshop (before the participants went home on the final day). This survey was comprised of 21 items pertaining to mentor-perceived needs in areas such as “collecting classroom observation data, interpersonal skills, and socializing my mentee(s) into the school culture.” Responses were given and analyzed using a five-point rating scale (from 1 = “little or no need for assistance in this area” to 5 = “very high need for assistance in this area”).

The fourth questionnaire was given to participants immediately following their completion of the post-needs assessment; it served as an overall evaluation of the workshop. Nine open-ended questions elicited participants’ overall feelings about the workshop, the extent to which it met their expectations, most and least helpful aspects of the workshop, and what might be missing from both the mentoring and GCA aspects of the sessions. The questions were designed by the research team and vetted by a ‘panel of experts’ (experienced qualitative researchers) to determine face validity (Bogdan & Biklen, 1992).

Interviews. In Phase 2, the CTs were interviewed during the final two weeks of the practicum; CTs had at least seven weeks of interaction with the STs. Interviews were conducted by trained or experienced research assistants. The interview protocol consisted of standardized, semi-structured, open-ended questions. When appropriate, probing questions elicited further explanations of their responses. To minimize interruptions, a quiet room at the CT’s school was used to conduct the interviews which were audiotaped and transcribed. Interviews ranged in length from five to 25 minutes (averaging just over 15 minutes).

Prior to implementation, the interview questions were again distributed to the ‘panel of experts.’ Many of the questions were similar to items in the workshop evaluation questionnaire. The interview items were then pilot-tested with three teachers who had served as CTs but were not part of the study. As a result, two questions were slightly modified for clarification and two more pilot interviews were conducted with additional volunteers. Examples of interview questions were, “What aspect of the MT workshop prepared you the most to assist your ST?” “Tell me about the post-observation conferences you have had with your ST.” “Have you been using the GCA approach less, more, or about the same in your own teaching, as compared to before you attended the MT workshop?”

Procedures

Initially, volunteer teachers were recruited for Phase 1 and informed consent was obtained from every participant. The needs assessment questionnaires and the evaluation of the workshop were conducted anonymously. A project officer was present to disseminate and collect all of the initial questionnaires. Participants wrote their identification numbers on the pre- and post-needs assessment questionnaires so that they could be paired for analysis. A participant who missed any part of the workshop was excused from completing the post-needs assessment questionnaire as well as the final workshop evaluation.

In total, four workshops were conducted independently, but each covered the same content information and provided similar experiences for the participants. In other words, the initial MT workshop was repeated three more times to ensure small group sizes for each workshop. Each participant was engaged in 30 hours of training over a one week period, with 15 hours devoted to MT and 15 hours to the GCA. As the focus of the workshop, it was assumed that teachers would want theory and practical applications related to effective mentoring, as well as knowledge and experience pertaining to the GCA. Findings from the survey administered prior to the workshop confirmed our assumptions.

Mentor training. The initial portion/segment of mentor training consisted of lecture and discussion formats pertaining to issues such as the role of a mentor and mentee, mentoring models, adult learning theory, issues related to the student teaching triad (CT, ST, and university supervisor), and research on effective teaching and mentoring skills. Participants engaged in exercises that were designed to improve their active listening and emphatic responding skills, as well as a step-by-step process to support their understanding of a systematic approach to assist someone in solving a problem (Communication Research Associates, 1982).

Participants were then introduced to several systematic observation instruments that included self designed timelines and focused on ALT-PE (Metzler, 1979), management, feedback, and questioning (Randall, 1992). Videotapes of physical education
lessons allowed participants the opportunity to practice coding and completing the various pro-formas. They became reliable coders through data comparison between each of the participants and the first author.

Participants were then introduced to developmental supervision, which included the pre-observation conference, lesson observation, and post-observation conference. Disparate forms of conferencing were discussed from direct to collaborative to non-direct (Glickman, 1990), and significant time was taken to illustrate the positive benefits of a collaborative approach. Concepts related to conferencing, such as conferring, questioning, mirroring, and reflecting (Boreen, Johnson, Niday, & Potts, 2000) were introduced. They facilitate collaboration between mentor and mentee, and empower the mentee in the process. A case study involving an actual practicum incident (Wright, 1996) was then presented to the participants. They were asked to write out a series of questions that they might ask a ST who had just gone through this experience. Participants were then given the opportunity to role play the post-observation conference with one teacher being the CT and the other the ST. After both teachers had played each part, a group role-play occurred whereby the workshop facilitator played the role of the CT and the participants all played the role of the ST.

Finally, ST evaluation forms used by both university supervisors and CTs were discussed and a rubric was designed by the participants to differentiate between ST grades of distinction, credit, pass or fail.

GCA Training. Initially, participants were briefed on the evolution/history of the GCA to position the approach in the context of teaching games for understanding (TGfU). Guidelines covering the format for GCA lessons (Griffin, Mitchell, & Oslin, 1997) were discussed in order to prepare participants for a flexible, individualistic interpretation by their STs. CTs were also exposed to the theory and practical applications of the three major games classifications, namely invasion, net/wall, and fielding/run scoring games (Almond, 1986)

Data analysis
Items from the four Phase 1 questionnaires were open-ended, closed, or Likert scale-type questions. Closed and Likert-scale responses were analyzed using SPSS (11.0) to determine mean scores. The pre- and post-workshop needs assessment questionnaires were first analyzed by a t-test for a single mean (to determine overall significance of the sum of all the means – pre and post), and then paired samples t-tests were used for each question to verify if the workshop content had a significant effect on the perceived needs of the participants. Open-ended questions in the questionnaire and the Phase 2 interview items were analyzed using induction and constant comparison (Bogdan & Biklen, 1992; Patton, 1990). Each questionnaire and interview was separately analyzed, as was each question. Individual sentences, phrases or key words were considered a unit of analysis. If a key word was mentioned by more than 25% of the respondents, it was considered important. CTs interview and workshop questionnaire responses were compared to determine if there were any emerging themes.

Trustworthiness of the data was assured through several strategies. There was a worthy sample size of 58 workshop participants in Phase 1 and 17 CTs in Phase 2. Ultimately, we collected data on multiple participants at multiple times using different instruments which resulted in triangulation and facilitated reliability (Cohen & Manion, 1980). Participants were also asked similar questions during the evaluation of the workshop and in the interview. In addition, member checks occurred as participants were given the opportunity to read the transcripts of their interviews and were encouraged to report any misinterpretations.

Results
Findings in this section are divided into two phases. The MT phase that includes data from the four questionnaires is initially discussed. Analysis of the post-practicum interview data will then follow. Although there were questions asked of the participants in both the questionnaire and the interview pertaining to MT and GCA, mainly MT issues will be reported in this article.

Phase 1: Mentor Training Workshop

Initial questionnaire. Demographic data from the 58 participants have been reported earlier. As many of the participants gave more than one response, the total number of responses was greater than the sample size. Information and/or skills related to MT were mentioned by 44 respondents (76%) and a further 33 (57%) were interested in learning more about the GCA. There were also two who did not answer the question and one who wrote, “I don’t know at the moment.” For a further breakdown of what participants specifically wanted to learn about mentoring, see Table 1.

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to be a good or effective mentor</td>
<td>11</td>
</tr>
<tr>
<td>How to provide guidance or assistance to their mentees</td>
<td>10</td>
</tr>
<tr>
<td>Acquire mentoring skills (no specific skills mentioned)</td>
<td>6</td>
</tr>
<tr>
<td>How to assess mentees</td>
<td>4</td>
</tr>
<tr>
<td>Acquire interpersonal skills</td>
<td>4</td>
</tr>
<tr>
<td>How to acquire mentoring knowledge</td>
<td>3</td>
</tr>
<tr>
<td>Understand the expectations of a mentor</td>
<td>3</td>
</tr>
<tr>
<td>How to inspire mentees</td>
<td>3</td>
</tr>
<tr>
<td>How to give appropriate/effective feedback</td>
<td>3</td>
</tr>
<tr>
<td>How to use conferencing skills</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Single responses were not reported here, so the total is less than 58.

The majority of the responses from the initial questionnaire were of a general nature. Such an example was that of a male participant with 26 years of teaching experience who stated that: Mentoring in a ‘specialized subject’ like PE is quite different from mentoring academic subjects at school. I’d like to look at additional mentoring techniques to give better support to trainee teachers. Qualitatively, I would like to know if I have been mentoring sufficiently or optimally all these years.
An example of a more specific response was from a female teacher with six years of experience, who mentioned that she had an interest in the GCA but also that she “. . . would also like to learn how to effectively observe a PE lesson, how to objectively assess the lesson and [be able to] suggest appropriate solutions to improve future lessons.”

Needs assessment questionnaires. An initial overall comparison of the pre- and post-workshop needs assessment questionnaires was computed through an examination of the sum of all the means (pre-test= 57.579; post-test 45.737). A t-test for a single mean revealed a value of p = .007, (t = -3.021) which was significant at the .05 level. Additionally, pre- and post-workshop responses to each of the questions were further compared by paired samples t-tests. Results demonstrated that there was a significant decrease in reported need (significance between .000 and .002 levels) for four questions, see Table 2.

The data reveal that participants were significantly more comfortable at the end of the workshop, than they were at the beginning with regard to “learning more about what is expected of me as a mentor,” “collecting classroom observation data,” “diagnosing needs of my mentee,” and “using principles of adult learning to facilitate growth.” A further analysis of the participants’ pre-workshop needs indicated that on a scale of 1 to 5 (with 1 being little or no need for assistance, 2 - some need, 3 - moderate need, 4 - high need, and 5 - a very high need of assistance), the areas of highest reported need (with mean scores) amongst participants were: “diagnosing needs of my mentee” (3.63), “learning more about what is expected of mentors” (3.58), “engaging in expert coaching of my mentee” (3.42), “using principles of adult learning to facilitate the growth of my mentee” (3.32), and “collecting classroom observation data” (3.26). In contrast, the three items of lowest reported need in the pre-workshop assessment were “socializing my mentee into the school culture” (1.68), “helping my mentee maintain student discipline” (1.68), and developing “interpersonal skills” (1.89).

Workshop evaluation. Collectively, the 58 participants who completed all aspects of the workshop reported very positive overall thoughts, and 56 responses were entirely positive. Phrases such as “very relevant,” “enriching,” and “fulfilling” were used by 26 respondents (45%). One participant exclaimed: “Great nourishment for the soul as I had not taken a course for ages and [sic] also a reminder of our responsibilities to our colleagues, especially new ones and student teachers” (#47). Another respondent wrote: [This was] a very useful course that provided me with valuable

<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
<th>Pre M</th>
<th>Post M</th>
<th>Sig.</th>
</tr>
</thead>
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<tr>
<td>1.</td>
<td>Learning more about what is expected of me</td>
<td>3.5789</td>
<td>2.1053</td>
<td>.001*</td>
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<tr>
<td>2.</td>
<td>Collecting classroom observation data</td>
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<td>1.9474</td>
<td>.000*</td>
</tr>
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<td>3.</td>
<td>Diagnosing needs of my mentee</td>
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<td>2.5789</td>
<td>.000*</td>
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<td>4.</td>
<td>Interpersonal skills</td>
<td>1.8947</td>
<td>1.8421</td>
<td>.790</td>
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<td>Assisting my mentee with classroom management</td>
<td>2.3158</td>
<td>1.9474</td>
<td>.167</td>
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<td>6.</td>
<td>Helping my mentee develop effective teaching strategies</td>
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<td>2.5263</td>
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<tr>
<td>7.</td>
<td>Using principles of adult learning to facilitate growth</td>
<td>3.3158</td>
<td>2.2150</td>
<td>.002*</td>
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<td>8.</td>
<td>Socializing my mentee into the school culture</td>
<td>1.6842</td>
<td>1.7368</td>
<td>.853</td>
</tr>
<tr>
<td>9.</td>
<td>Helping my mentee maintain student discipline</td>
<td>1.6842</td>
<td>1.5789</td>
<td>.695</td>
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<tr>
<td>10.</td>
<td>Helping my mentee design a professional plan</td>
<td>3.2632</td>
<td>2.7895</td>
<td>.155</td>
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<tr>
<td>11.</td>
<td>Finding resources and materials for my mentee</td>
<td>2.5789</td>
<td>2.4737</td>
<td>.755</td>
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<td>Providing emotional support for my mentee</td>
<td>1.9474</td>
<td>2.1053</td>
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<td>13.</td>
<td>Co-teaching with my mentee</td>
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<td>1.8421</td>
<td>.285</td>
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<td>14.</td>
<td>Managing my time and work</td>
<td>2.1579</td>
<td>2.0000</td>
<td>.625</td>
</tr>
<tr>
<td>15.</td>
<td>Problem solving strategies</td>
<td>2.6842</td>
<td>2.2632</td>
<td>.134</td>
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<td>16.</td>
<td>Helping my mentee motivate students</td>
<td>2.6842</td>
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<td>.042</td>
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<td>Helping my mentee deal with individual students</td>
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<td>2.2105</td>
<td>.011</td>
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<tr>
<td>20.</td>
<td>Helping my mentee evaluate student progress</td>
<td>3.0000</td>
<td>2.2105</td>
<td>.004</td>
</tr>
<tr>
<td>21.</td>
<td>Engaging in expert coaching of my mentee</td>
<td>3.4211</td>
<td>2.6316</td>
<td>.004</td>
</tr>
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</table>

Note: * p < .002
insights into mentoring aspects. I will definitely apply the knowledge and skills [acquired here] in my role as a mentor/CT in the future. Useful instruments will help to guide me in my lesson observations (#5).

An additional 19 participants used the words “excellent,” “wonderful,” “great,” or “very good.”

When asked if the workshop met their expectations, the majority (n=44, 76%) of participants agreed that it did, 10 stated that it did not meet expectations, and four reported mixed feelings. Of those responding in the affirmative, many did not elaborate upon how the workshop met their expectations. An example of such was: “Yes, perhaps even more than expected. It revitalized and energized me as a PE teacher” (#45). Of the 10 who gave a negative reply, three mentioned that they wanted more practical experiences with mentoring and fewer lecture/discussions. As one stated, “I expected the mentoring to be more hands-on, as most of us have not had any experience with it. Too much theory and not enough practical [sic] on it” (#44). Three other negative responses were about expecting more mentoring and less GCA instead of an even distribution. Two other respondents expected more opportunities for participants to share their previous experiences as CTs as well as their use of the GCA approach amongst themselves.

In answering the question of what was most helpful in the mentoring portion of the workshop, half of the respondents (n=29) mentioned systematic observation instruments. “The use of various observer systems will enable me to analyze lessons more objectively” (#5). Nine participants mentioned that the listening and/or questioning/conferencing exercises were most helpful to them. “Learning how to ask relevant questions to get the mentee to reflect on what they are doing [was helpful]” (#39). Nine of the responses (16%) mentioned learning mentoring skills without stating specific skills and eight mentioned the case study. In total, 60 responses (some questionnaires had more than one response) were determined to be of a practical nature. Only three responses indicated that knowledge alone (acquired during the workshop) was most helpful to them. Of these, two wrote that they understood the role and expectations of a CT better, while another stated that the talk pertaining to the needs of novice teachers was most helpful.

When asked what was least helpful to the participants, the vast majority (n=44, 76%) wrote “nothing,” “nil” or they left the section blank. Of the 14 who wrote that something was least helpful, 10 (17%) stated that there was too much lecture and not enough hands-on activities. When answering the question of what was missing from which they might have benefited, 28 participants (48%) wrote “nothing,” “nil” or left the section blank. Of the 30 who stated that something was missing, 10 mentioned that they wanted more practical activities. An additional seven specifically mentioned that they would have preferred more case studies to have been examined during the workshop.

Phase 2: Cooperating Teacher Interviews

The 17 participants who were part of the second phase of the study were interviewed towards the end of their experience working with a ST. At least six months had elapsed since the MT for most of the participants and thus, all had the benefit of reflecting on the workshop after working with a ST.

What helped most? Most of the respondents (12 of 17, 71%) mentioned a practical aspect of the MT when asked what had helped prepare them most in their role as a CT. Of the 12 practical responses, four mentioned that the practice in asking questions was most helpful. As one stated, “I think the main thing was asking questions rather than supplying answers, to help the trainee be a bit more reflective in his or her teaching, rather than to tell her ‘you should do this or not do this’” (#3 Interview). Four other respondents mentioned that their experience using assessment tools and/or their ability to be objective in lesson observations was most helpful. Of the five that did not mention practical experiences being helpful, three stated that understanding their STs’ needs was most beneficial, whereas the remainder felt it was the knowledge learned about a CT’s role.

Missing from the MT. Having more hands-on experiences, role-playing, and more case studies were mentioned by six of the 17 participants when responding to the question of what was missing from the content of the MT workshop. “I would think maybe more hands-on [experiences] such as question and answer sessions with a [real] trainee teacher” (#1 Interview). An additional five respondents said that nothing was missing and that they believed the content of the workshop was just what was needed. Three mentioned that there are many constraints in schools that prohibit the teaching of the GCA and that should have been addressed more specifically in the workshop.

CT frustrations. The participants (n=17) involved in this portion of the study were asked what frustrations they had encountered in their roles as CTs. A majority (10) stated that they had no frustrations at all. As one wrote:

I can’t really complain about frustrations because my trainee teacher [ST] has been very responsive and has been very eager to learn. . . I wonder if she feels frustrated that I have not kept up with her level of curiosity and inquisition (#6 Interview).

Of the seven who mentioned being frustrated, five said that they did not feel as though they had enough time to interact with their ST. A typical response was:

There are so many things going on in the school . . . and we need to reflect, you know, particularly before and after an observed lesson. [Sometimes] I want to have a conference with her [ST] and something crops up and I have to postpone it. . . We need more time to reflect (#8 Interview).

Of most interest was the absence of any frustration related to the CTs’ understanding of the GCA, or their ability to give their STs feedback related to their use of the GCA. In an earlier pilot study, 75% of the CTs reported a great deal of frustration related to STs’ use of the GCA as they (CTs) were not very familiar with it.

CT enjoyment. Sharing the experience with a ST or interacting with a ST was mentioned by 10 of the 17 participants when asked what they enjoyed about their role as a CT. As one stated:

It’s working with the trainee teacher [ST] and having a good rapport with the trainee teacher. There is a lot of openness in our discussions. Nothing that we talk about is so fixed and cast in stone that we can’t change or modify it. We are quite open to the idea of exploring, making mistakes, learning and exchanging ideas and so forth. That’s the part that is most enjoyable (#11 Interview).

Three other CTs mentioned that they enjoyed getting a “fresh perspective” from their STs and three stated that they enjoyed watching their mentees “doing well” (teaching).
How CTs helped STs the most. Of all questions asked of the participants, this one elicited the greatest diversity of replies. Five mentioned that helping STs reflect on their own teaching was important. “Once they get on to teaching, it’s all about allowing them to be reflective of their own teaching. Subsequently, to [help them] draw upon their own experiences to help them improve in areas that need it, and also remember to encourage and motivate them” (#12 Interview). Four respondents also mentioned that they helped their CTs in the area of classroom management. As one stated:

I helped most in the area of classroom management which I think is missing from [their training]. At the university the trainees are not taught how to really handle a class, of say, 36 pupils in this school. . . So that practical aspect is crucial to a trainee teacher [ST] because that is what they will see in the future when they become a teacher (#10 Interview).

Three participants commented that they helped their STs the most by being objective observers of their teaching and/or by providing feedback during the post-observation conference. Helping to “induct” STs in their schools was also mentioned by three other CTs.

Post-observation conferences. As the importance of conferencing was emphasized during the MT, participants were given the opportunity to comment specifically on it during the interview. All but one of the CTs stated that the conferences were very positive. The CT who responded negatively stated that he simply did not have enough time to do what he wanted. A total of 12 of the 16 positive responses (75%) revealed that asking questions and getting STs to reflect on their teaching, and/or sharing ideas was rewarding to them. An example of this was that “After every observation, we sat down for a half an hour, at least, to discuss the lesson. And we really had good discussions. I started out by asking him how he felt about the lesson and he was really frank and honest about it. We would then discuss different issues” (#1 Interview).

Discussion
What were CTs looking for? Analysis of the initial questionnaire revealed that participants wanted to learn skills and knowledge that would assist them in being effective mentors, who would be able to nurture and develop STs placed under their charge. Perhaps it is not surprising that the majority of the participants were not looking to learn anything specific, as 18 (31%) had never been a CT and most likely were uncertain of what they needed to learn. As for the other 40 participants, only four had any training in mentoring, but not one CT had any specific training in the area of physical education. As reported previously, CTs did not feel sufficiently comfortable in their role and expressed a desire to be trained (Wright, 2001b). Rikard and Veal (1996) reported a similar finding, and Tjeerdema (1998) reported that her participants recommended a workshop for prospective CTs to explain an information packet that included systematic observation sheets and a ST evaluation.

Research has suggested that when CTs are not trained, they are left to their own devices and memories of their own student teaching to determine their role as a CT (Rikard & Veal, 1996). For an extensive review of problems that mentors face when confronted with a lack of training, see Tauer (1995). Compounding the confusion related to the CT role is the fact that teachers are trained to work with school children and are not trained to work with adults in a mentoring capacity. The vast majority of mentoring that occurs within physical education settings is of an informal nature (Tannehill & Coffin, 1996). Although a case has been made to produce more formalized mentoring relationships in physical education (Wright & Smith, 2000), our profession has been slow to develop such practices. As reported in the pre-workshop needs assessment questionnaire, participants reported that they most needed help with diagnosing needs of mentees, learning more about what is expected of mentors, engaging in expert coaching of mentees, using principles of adult learning to facilitate the growth of mentees, and collecting classroom data.

CT impressions after the workshop. The five areas of need mentioned in the previous paragraph were all significantly addressed during the workshop. With the exception of “learning about what is expected of mentors,” all other topics were explained through theoretical concepts and then followed by practical applications/experiences that participants could use “in the field.” An example was the introduction of ALT-PE, which then led to participants using the instrument while viewing videotaped lessons. Results of the needs assessment questionnaires suggest that participants’ feelings about diagnosing needs of mentees, learning more about what is expected of mentors, collecting classroom data, and using principles of adult learning to facilitate growth were significantly reduced by the end of the workshop (see Table 2, questions 1, 2, 3 and 7).

In the workshop evaluation questionnaire, participants (95%) overwhelmingly reported that hands-on experiences (such as coding videotapes using ALT-PE) were most helpful. Moreover, of the 52% who felt that something was missing from the workshop, all but one mentioned practical activities/tasks (such as being exposed to more case studies). The popular desire to have more practical experiences was surprising as the participants were given ample opportunity to apply what they had learned in practical settings within the workshop. However, the message is clear that there was insufficient practice. An exploration of adult learning theory could, perhaps, explain this finding.

Adult learning theory (Knowles, 1984) is based on the notion that adults are self-directed learners and their need to learn stems from their desire to face challenges they encounter throughout their lives. According to Speck (1996), components of adult learning theory most critical to effective professional development include: (a) Adults need real-world applications, because training is more meaningful when they see that they can use what they have learned in the workplace; (b) adults want to be treated as competent professionals and they desire some control over their learning; and (c) adults benefit from professional development activities that allow them to participate in activities that provide opportunities for higher order thinking such as application, analysis, synthesis and evaluation. Moreover, adult learning approaches require a psychological climate of mutual respect, collaboration, support, openness, and authenticity (Knowles, 1984). These factors related to adult learning appear to correspond to our participants’ desire for even more practical opportunities than they had received during the workshop.

After reviewing a number of studies related to adult learning, Boydell (1991) recommended that the training of CTs should be
widespread, and that “a collaborative inquiry-based approach involving supervisors, students, and teachers, and a shift toward diagnostic evaluation seem most promising” (p. 151).

Imlications of training on CTs? Most interesting was that 58% of the interviewees stated “nothing” when asked what their biggest frustrations were as CTs. Although there is much evidence to suggest that CTs report negative implications pertaining to their role (for a comprehensive review in the educational literature see McIntyre, Byrd, & Foxx, 1996), other research suggests that when training and/or information from a university is provided, CTs report more positive feelings about their experiences (Kaufman, 1992; Metzler, 1990, Randall, 1992; Tjeerdsma, 1998). Our findings support the belief that training reduces CT frustrations and provides a more positive experience for them. Research reported earlier (McIntyre et al., 1996) about the disconnection between STs’ classroom studies and real world CT practice is further confirmed here. Results from our pilot study revealed that CTs were very frustrated and often felt incompetent addressing the GCA teaching of STs. When the CTs were trained as part of this study, however, there were no reports of frustration related to the GCA.

The major frustration reported (by 29% of the participants) was a lack of time to conduct proper post-observation conferences due to school activities and responsibilities. This suggests that the participants “bought into” the importance of such conferences, a factor stressed during the MT workshop. Interestingly, none of the participants spoke of frustrations related to his/her role as a CT, their ST, or any misunderstandings related to the university’s expectations.

In addition to their relative lack of frustration, participants stated that they enjoyed their role as CT. While 59% of interviewees commented that they enjoyed sharing experiences with their STs most, 18% used words such as “feeling revitalized” or “refreshed” because of their relationship with their ST. These findings were similar to feelings that CTs have had in other studies (Tannehill, 1989; Tjeerdsma, 1998) and it appears, as others have stated (Ganser, 1996; Glickman, 1990), that a mentoring relationship is a connection between what STs learn in their classes and what they experience with their CTs.

In the interview, 29% responded that they supported their STs by attempting to encourage them to reflect more on their teaching. This concept had been a major focus of the MT workshop, both from a theoretical and practical perspective. Unfortunately, O’Sullivan (1992), among others, has discovered that CTs find it difficult to stimulate STs to reflect on their teaching. According to McIntyre et al. (1996), “Cooperating teachers need training in communication skills and that training should promote reflective thinking if teacher education students are to master this skill” (p. 178). Coulon and Byra (1997) have documented the argument that CTs tend to dominate post-observation conferences with a very direct manner that leaves little room for ST reflection. They trained two CTs in the use of systematic observation instruments and in-conferencing techniques which resulted in one CT asking a number of questions in post-observation ST conferences, but the other CT asked very few questions in her conferences.

In sharing their thoughts pertaining to the post-observation conference, 75% of the participants stated that motivating students to reflect on their teaching, and/or sharing ideas was very rewarding. This suggests that the majority of CTs were conscious of promoting a collaborative style of conferencing that promotes reflection (Glickman, 1990). However, the remaining participants (25%) did not speak in terms of collaboration during conferences. Instead, they spoke about how rewarding it was for STs to listen to them and then have them follow through with their advice in subsequent lessons. Unfortunately, this suggests a more direct approach, something we had hoped to discourage.

Conclusion

There is an interest on the part of CTs and/or prospective CTs to receive training for a role that they are ill-prepared to carry out effectively. Research has shown that CTs who are trained, report more positive feelings about their interactions with STs. Training should take into account the needs of adult learners and, in particular, focus on the practical applications of theoretical constructs presented during workshops. Participants in this study saw great value in using systematic observational tools while watching videotaped lessons, reviewing a case study of an actual ST lesson and role playing pre- and post-observation conferences. If a goal of mentoring is to promote mentee reflections, this needs to be a major focus of the MT workshops. While we determined that the theoretical concepts that underpin practical applications of mentoring and the GCA were important, the CTs clearly stated that you cannot overdo the practical aspects during training.

The designers of teacher workshops should constantly be aware of adult learning theory and, in particular, simulate real-world experiences to generate lessons that participants can take back to the workplace. Providing case studies for CTs was particularly helpful, but it was suggested that multiple case studies would have given the participants even more practice in conferencing. While we had participants role play both the ST and the CT in a post-lesson observation conference, they recommended that the use of a ‘real’ ST would have made the activity even more effective.

A conflict often exists between the concepts, practices or beliefs that STs learn in their university classes and what more ‘traditional’ CTs practice. To overcome this conflict, workshops should be designed to educate the CTs on what STs know and are required to teach. In this study, the GCA was a required teaching approach for the STs, but many CTs were unfamiliar with this concept. This not only made it difficult for CTs to advise STs, but it also deprived STs of quality feedback from the CTs. In some cases, CTs felt inferior because they did not know enough about a teaching approach that was so highly valued by PETE faculty. The researchers, therefore, believe that mentor training workshops should focus on PETE-related content that affects STs’ practice, as well as training to be a more effective mentor in general. If CTs are not trained by PETE faculty, then there is a strong likelihood that there will be a poor connection between what STs learn in their classes and what they experience with their CTs.

We also believe that mentor training workshops can be effective in other fields within physical education and/or kinesiology. Certainly professionals in areas such as outdoor education, athletic training, sports administration, and exercise science would benefit from participation in training workshops if they mentor student interns. To read an example of how sport psychologists engage in a designed mentoring program, see Wright and Smith (2000). Mentors who work with university students ‘in the field’ should be

volume 1, issue 2 33
viewed as teacher educators and should be trained to do this job to the best of their ability. University faculty members who teach interns are in the best position to educate their mentors as well.

**Recommendations**

A follow-up study would be helpful to examine more specifically the dialogue that occurs during conferences between trained CTs and their STs, to determine actual conferencing styles. The results could be compared to untrained CTs and their STs to see if there is a significant difference. It would also be helpful to determine whether these participants feel a need for on-going support, and if so, what forms they might take. An important component of adult learning heretofore unmentioned is that follow-up support is often needed to help adult learners transfer their learning into daily practice so that it is sustained (Speck, 1996). Interviewing STs would also provide a different perspective of trained versus untrained CTs.

A recent study by Giebelhaus and Bowman (2002) revealed that CTs who were trained for 30 hours in a specific framework (Praxis III/Pathwise) had STs who scored higher than STs working with non-trained CTs in effective planning, instruction and ability to reflect on practice. Certainly similar studies in the field of physical education would shed light on the impact that CTs have on ST performance. Ultimately, the more we can learn about the training of CTs and how that training impacts the CT/ST relationship, the more we can maximize the effects of the all-important practicum experiences for mentors and their mentees.

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**References**


by Earle F. Zeigler

After 65 active years in the field of physical education, my energy is beginning to wane. I thought the world would be in better condition at the onset of the 21st century. It is and it isn't. I thought the field of education would be in better shape by this time too. It is and it isn't. Finally, I thought that the field of physical education (and accompanying school health education) might have achieved what I have long believed be its rightful place both within education and in the society at large. This has most definitely not happened.

It's discouraging because we are told that health-care costs in the United States, for example, increased 100 per cent between 1994 and 2004. (The figures for the rest of the world aren't available.) The U.S.A.'s costs now exceed 1.9 trillion dollars annually! And, on top of that, 40 million Americans have no health-care insurance!

What's really discouraging, however, is knowing that these costs could be cut in half if people put into practice what we have been trying to teach all these years in school health and physical education programs! This, my colleagues, is a major challenge that the world faces, that formal education faces, and that the field of health and physical education faces from here on out. People need to know what to eat-if they can indeed get enough to eat (a major problem too!). They also need to know why, how, and how much to get involved with physical activity or exercise-if they aren't being forced to labor too much (another major problem).

What should we in the field of physical education do? What can we do? These are fundamental questions about which I have pondered, and about which I have sought to write professionally for close to 60 years. As I "fade from the picture" (gradually I hope), I can only say to those who read the Journal of ICHPER•SD, edited by the indefatigable Dr. Bill Stier (Distinguished Service Professor, State University of New York, Brockport, NY) that our task in the immediate future is frightening, but that nevertheless we must redouble our efforts as we seek to "bring a physical and health education message" to the world.

We simply can't be pessimistic, because we know that a state of pessimism is almost automatically self-defeating. Conversely we can't continue with the naive optimism that hopeless idealists often bring to bear on seemingly insuperable problems. Our only course of action seems to be that of meliorism (a term from philosophy). We must “take it from here” and improve the situation as best we can both within educational circles and in the society at large. We have to do it gradually and steadily, step by step.

The New ICHPER•SD Research Journal

The field of “physical (activity) education” should shift into high gear, if not overdrive. This is the original, but now only one of the allied professions that make up the name ICHPER-SD. The others sprang up in the course of the 20th century alongside the original “physical education.” I am recommending, also, that the body of research and scholarly knowledge about it should come from what might be called “developmental physical activity in exercise, sport, and related expressive movement.”

ICHIPE•SD already has its Journal of ICHPER•SD, of course, which is designed to “meet the needs of the academic community,” those “engaged in or studying HPER•SD, and related activities, at all levels (local, state, regional, national, and international).” This group is being “encouraged to contribute to the professional literature by submitting scholarly, but not necessarily data-based research manuscripts, that will contribute to and expand the knowledge base of the disciplines within our allied professions.”

Now we can also be very enthusiastic about the inauguration of the new ICHPER•SD Journal of Research under the editorship of Dr. Bill Stier. The mission of the new research journal is to publish “research-oriented manuscripts that will contribute to, and expand, the knowledge base of the disciplines underlying the several professions with ICHPER•SD.” It is here that academics working in the allied professions and in related sub-disciplines should contribute the results of their scientific and scholarly findings—about what they believe their investigation permits them to say! What they “hope to know” through further research, and what they “would like to know” are different matters, of course. These latter ideas, if presented in a scholarly manner, could well appear in the Journal of ICHPER•SD.

The Field’s Name

The ongoing search for a name for “good, old physical education” in North America became very complicated in the “troubled sixties” when a disciplinary oriented thrust came into being. It left the field in a state of complete confusion. For example, the term "sport and physical education" has been used for a number of years by the National Association for Sport and Physical Education within the American Alliance (AAHPERD) to describe the professional effort in the United States. The National Association for Sport and Physical Education seeks to “enhance knowledge and professional practice in sport and physical activity through scientific study and dissemination of research-based and experiential knowledge to members and the public.” Now, after a type of merger, another national association has sprung under the umbrella of the American Alliance for Health, Physical Education, Recreation, and Dance. It is called the American Association for Physical Activity and Recreation (AAPAR). AAPAR is “dedicated to enhancing quality of life by promoting creative and active lifestyles.” In Canada, where I live and have worked for half of my career, it is still "physical and health education" in the school, but the disciplinary name at the university level is often “kinesiology.”
or “human kinetics.” However, the terms "physical education and sport" and "sport" are now more popular in other countries that identify with the Western world and the European continent, respectively. In my opinion, no one of these names, or combination of names, is going to make it in the long run.

I sincerely believe that (1) agreement about a name, (2) a taxonomy for our subject matter, (3) the steady development of a undergirding body of knowledge, and (4) certification or licensure at the state/provincial level would reasonably soon place our field in a position where a professional practitioner would in time be recognized as a "such-and-such" no matter what type of position that person held within the field. This should be true no matter in which state, province, or territory such professional service was carried out. Reaching consensus on this perplexing, but indeed vital, matter at this late date will undoubtedly be extremely difficult. However, it is absolutely essential that we strive for such an objective.

In my opinion, the time is also overdue for us to bring our field's image into sharper focus for the sake of our colleagues and students, not to mention the public. As a disciplinary title at the university level, we could call ourselves human motor performance, but this may not sound sufficiently academic for some. Movement arts and science has possibilities. The term "kinesiology" has been in the dictionary for decades, but we would have to broaden the definition that is there in one sense and narrow it in another. However, what we are fundamentally involved with is “developmental physical activity” in sport, exercise, and related expressive movement-and that's it! The late Elizabeth Halsey recommended it back in the 1950s, but the time was not yet ripe for its acceptance.

Quite simply, the professional aspect of our field should be called physical activity education and we, as physical activity educators, should be promoting such developmental physical activity based on sound research about its effects on people of all ages and abilities. Also, the time is past due when our field should be making our “body of knowledge” available to practitioners through computer technology in a variety of ways (e.g., ordered principles, expert systems). In the process we should also convey the understanding to the public that we who profess physical activity education are not typically qualified to be recreation directors, health specialists or dance specialists! People laboring in our allied professions are now too highly specialized for us to think that there ever can be one professional association again that can serve all four fields. (These professionals hold undergraduate and/or graduate degrees in any of these three allied professions.) What we do understand is physical recreation only, some of the "health aspects" of developmental physical activity, and occasionally some of the social and traditional dances.

Note: For the remainder of this guest editorial I will continue to insert the word “activity” in parentheses—i.e., (activity)—whenever I use the historical term “physical education.”

In the early 1970s, my late friend and colleague, Laura Huelster (University of Illinois, U-C), and I reasoned that one approach would be to "conjure up" a taxonomy that would include both the professional and the scholarly dimensions of our work. With this thought uppermost in our minds, we decided that what was needed was a balanced approach between the subdisciplinary areas of our field and what might be identified as the subprofessional or concurrent professional components as explained above. As part of an effort to close what was becoming a debilitating, fractionating rift within the field, we developed a taxonomical table to explain the proposed areas of scholarly study and research using our nomenclature (physical activity education terms only) along with the accompanying disciplinary and professional aspects. We agreed upon eight areas of scholarly study and research that are correlated with their respective subdisciplinary and subprofessional aspects in Table 1 (see below). Most importantly, the reader will note that the names selected for the eight areas do not include terms that are currently part of the names of, or the actual names, of other recognized disciplines—and that are therefore usually identified with these other (related) disciplines primarily by our colleagues and the public.

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<th>Areas of Scholarly Study &amp; Research</th>
<th>Subdisciplinary Aspects</th>
<th>Subprofessional Aspects</th>
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<td>I. BACKGROUND, MEANING, &amp; SIGNIFICANCE</td>
<td>-History</td>
<td>-International Relations</td>
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<td>-Philosophy</td>
<td>-Professional Ethics</td>
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<td>-International &amp; Comparative</td>
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<td>II. FUNCTIONAL EFFECTS OF PHYSICAL ACTIVITY</td>
<td>-Exercise Physiology</td>
<td>-Fitness &amp; Health Appraisal</td>
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<td>-Anthropometry &amp; Body Composition</td>
<td>-Exercise Therapy</td>
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<td>III. SOCIO-CULTURAL &amp; BEHAVIORAL ASPECTS</td>
<td>-Sociology</td>
<td>-Application of Theory to Practice</td>
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<td>-Economics</td>
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<td>-Geography</td>
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<td>IV. MOTOR LEARNING &amp; CONTROL</td>
<td>-Psycho-motor Learning</td>
<td>-Application of Theory to Practice</td>
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<td>-Physical Growth &amp; Development</td>
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<td>V. MECHANICAL &amp; MUSCULAR ANALYSIS OF MOTOR SKILLS</td>
<td>-Biomechanics</td>
<td>-Application of Theory to Practice</td>
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<td>-Neuro-skeletal Musculature</td>
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<td>VI. MANAGEMENT THEORY &amp; PRACTICE</td>
<td>-Management Science</td>
<td>-Application of Theory to Practice</td>
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<td>-Business Administration</td>
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<td>VII. PROGRAM DEVELOPMENT</td>
<td>-Curriculum Studies</td>
<td>-Application of Theory to Practice</td>
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The controversy over a name does point up the urgent need for clarity in our use of language, however, not to mention the need to close what Pat Galasso, former dean at the University of Windsor (Canada), called the "say-do" gap in our professional endeavors. Indirectly it also points the way also to bridging the ever-widening gap developing among the professional practitioner, the bio-scientific researcher, the social science and humanities scholar, and the administrator/manager and supervisor. I believe most sincerely that increased emphasis on our own profession is a truly important point right now, because it is symptomatic of the many divisions that have developed in the past fifty years or so in our field. That is why the taxonomy for the scholarly and professional dimensions of our field was recommended in Table 1 above.

In drawing this analysis to a close, I would like to make some specific recommendations which, if carried out, could insure the future of physical activity education in the 21st century. What should we do—perhaps what must we do—to ensure that the field will move more decisively and rapidly in the direction of what might be called true professional status? Granting that the various social forces will impact upon us willy nilly, what can we do collectively in the years immediately ahead? These positive steps should be actions that will effect a workable consolidation of purposeful accomplishments on the part of those men and women who have a concern for the future of developmental physical activity as a valuable component of human life from birth to death.

The following represent, therefore, a number of categories joined with action principles that relate directly to the "modifications" that have occurred in recent decades in North America at least. We have now reached the point where we should actively reach out to seek a world consensus on the eighteen steps spelled out below. If such could be achieved, as dedicated professionals we could then take as rapid and strong action as possible through our national and international professional associations. Also, we will undoubtedly receive assistance indirectly from the research findings of scholars in our allied professions and related disciplines. These recommended steps are as follows:

1. A Sharper Image. Because in the past the field of physical education has tried to be "all things to all people," and now doesn't know exactly what it does stand for, we should now-as physical activity educators—sharpen our image and improve the quality of our efforts by focusing primarily on developmental physical activity in sport, exercise, and related expressive movement. As we sharpen our image, we should make a strong effort to include those who are working in the private agency and commercial sectors. This implies further that we will extend our efforts to promote the finest type of developmental physical activity for people of all ages whether they be members of what are considered to be "normal, accelerated, or special" populations.

2. Our Profession’s Name. Because all sorts of name changes have been implemented (a) to explain either what people think we are doing or should be doing, or (b) to camouflage the presumed "unsavory" connotation of the term "physical education" that evidently conjures up the notion of a "dumb jock," we should continue to focus primarily on developmental physical activity as defined immediately above as a disciplinary name while moving toward an acceptable working term for our profession (e.g., physical activity education?). In so doing, we should keep in mind...
any profession's bifurcated nature in that it has both theoretical and practical (or disciplinary and professional) aspects.

3. A Tenable Body of Knowledge. Inasmuch as various social forces and professional concerns have placed us in a position where we don't know where or what our body of knowledge is, we will strongly support the idea of disciplinary definition and the continuing development of a body of knowledge based on such a consensual definition. From this must come a merging of tenable scientific theory in keeping with societal values and computer technology so that we will gradually, steadily, and increasingly provide our members with the knowledge that they need to perform as top-flight professionals. As professionals we simply must possess the requisite knowledge, competencies, and skills necessary to provide physical activity education based on sound knowledge about developmental physical activity to the public.

4. Our Own Professional Associations. Inasmuch as there is insufficient support of our own professional associations for a variety of reasons, we need to develop voluntary and mandatory mechanisms that relate membership in professional organizations both directly and indirectly to stature within the field. We simply must now commit ourselves to work tirelessly and continually to promote the welfare of professional practitioners who are serving the public in areas that we represent. Incidentally, it may be necessary to exert any available pressures to encourage people to give first priority to our own groups (as opposed to those of disciplinary-oriented societies, related disciplines, and/or allied professions). The logic behind this dictum is that our own survival has to come first for us!

5. Professional Licensing. Although most teachers/coaches in the schools, colleges, and universities are seemingly protected indefinitely by the shelter of the all-embracing teaching profession, we should now move rapidly and strongly to seek official recognition of our endeavors in public, semi-public, and private agency work and in commercial organizations relating to developmental physical activity through professional licensing at the state or provincial level. Further, we should encourage individuals to apply for voluntary registration as qualified practitioners at the federal level in their countries.

6. Harmony within the Profession. Because an unacceptable series of gaps and misunderstandings has developed among those in our field concerned primarily with the bio-scientific aspects of human motor performance, those concerned with the social-science and humanities aspects, those concerned with the general education of all students, and those concerned with the professional preparation of physical (activity) educators/coaches, managers, and scholars and scientists-all at the college or university level-we will strive to work for a greater balance and improved understanding among these essential entities within the profession.

7. Harmony among the Allied Professions. Keeping in mind that the field of physical education has spawned a number of allied professions down through the years of the 20th century, we should strive to comprehend what they claim that they do professionally, and where there may be a possible overlap with what we claim that we do. Where disagreements prevail, they should be ironed out to the greatest extent possible at the national level in all countries of the world.

8. The Relationship with Competitive Sport. In those relatively few countries where within educational institutions gate receipts are a basic factor in the continuance of sporting competition, for several reasons an ever-larger wedge is increasingly being driven between the unit of physical education and that of competitive sport. Such a rift serves no good purpose and has become contrary to the best interests of both groups. In these countries, the organized profession should work for greater understanding and harmony with those people who are primarily interested in the promotion of highly organized, typically commercialized sport. At the same time it is imperative that we do all in our power to maintain competitive sport in a sound educational perspective within our schools, colleges, and universities if it is presently offered there.

9. The Relationship with “Intramurals” and Recreational Sports. Intramurals and recreational sports as a program unit in a transitional state at present. Nevertheless, in North America, for example, it has proved that it is "here to stay" at the college and university level. For several reasons, however, intramurals hasn't really taken hold yet at the preparatory or high school level, generally speaking. This is most unfortunate, because it has a great deal to offer the large majority of students in what may truly be called recreational (and arguably educational) lifetime sport. (Some administrators functioning at the university level have adopted the term "campus recreation" as their programs' official designation, but this does not seem appropriate unless an effort is made to encompass all recreational activities on campus. Everything considered, both philosophically and practically, intramurals and recreational sports ought to remain within the sphere of the physical activity education unit on campus.)

10. Guaranteeing Equal Opportunity. Because "life, liberty, and the pursuit of happiness" should be guaranteed to all, as a profession we should move positively and strongly to bring about equal opportunity to the greatest possible extent to women, to minority groups, and to special populations (e.g., the handicapped) as they seek to improve the quality of their lives through the finest type of experience in the many activities of our field.

11. The Physical (“Activity”) Education Identity. In addition to the development of the allied professions (e.g., school health education) in the second quarter of the twentieth century, we witnessed the advent of a disciplinary thrust in the 1960s that was followed by a splintering of many of the various "knowledge components" and subsequent formation of many different societies nationally and worldwide. These developments have undoubtedly weakened the field of physical (activity) education. Thus, it is now more important than ever that we hold high the physical (activity) education identity as we continue to support those who are developing our profession's under-girding body of knowledge. Additionally we should re-affirm, but also delineate even more carefully, our relationship with our allied professions.

12. Applying a Competency Approach. Whereas the failures and inconsistencies of the established educational process have become increasingly apparent, we will as a profession explore the full educational possibilities of a competency approach stressing laboratory experiences as it might apply to general education, to professional preparation, and to all aspects of our professional endeavor in public, semi-public, private, and commercial agency endeavors. "Descriptive words are important, but we learn by doing!"
13. Managing the Enterprise. All professionals in the unique field of physical (activity) education are managers—but to varying degrees. The "one course in administration" approach in professional preparation programs of earlier times that included no laboratory or internship experience is simply not sufficient today or for the future. There is an urgent need to apply a competency approach in the preparation (as well as in the continuing education) of those who will serve as managers either within educational circles or elsewhere promoting exercise and sport in the society at large.

14. Ethics and Morality in Physical (Activity) Education. In the course of the development of the best professions, the various, embryonic professional groups have gradually become conscious of the need for a set of professional ethics—that is, a set of professional obligations that are established as norms for practitioners in good standing to follow. Our profession needs both a universal creed and a reasonably detailed code of ethics right now as we move ahead in our development. Such a move is important because, generally speaking, ethical confusion prevails throughout the world. Development of a sound code of ethics, combined with steady improvement in the three essentials of a fine profession: (1) an extensive period of training, (2) a significant intellectual component that must be mastered before the profession is practiced, and (3) a recognition by society that the trained person can provide a basic, important service to its citizens) would relatively soon place us in a much firmer position to claim that we are indeed members of a fine profession.

15. Reunifying the Profession's Integral Elements. Because there now appears to be reasonable agreement that what is now called the field of physical (activity) education is concerned primarily with developmental physical activity as manifested in sport, exercise, and related expressive movement, we will now work for the reunification of those elements of our profession that should be uniquely ours within our disciplinary definition.

16. Cross-Cultural Comparison and International Understanding. We have done reasonably well in the area of international relations across the world due to the solid efforts of a number of dedicated people over a considerable period of time. Now, however, we need to redouble our efforts to make cross-cultural comparisons of physical (activity) education while reaching out for international understanding and cooperation in all sections of the world. Much greater understanding on the part of all of the concepts of "communication," "diversity," and "cooperation" is required for the creation of a better life for all in a hopefully peaceful world. We need to develop ways that our profession can contribute significantly toward this long-range objective.

17. Permanency and Change. Inasmuch as the original "principal principles" initially espoused for physical education by the late Arthur Steinhaus (1952) of George Williams College can now be expanded significantly and applied logically to our professional endeavors, we will emphasize that which is timeless in our work, while at the same time accepting the inevitability of certain societal change.

18. Improving the Quality and Length of Life. Since our field is truly unique within education and in society, and since fine living and professional success involve so much more than the important verbal and mathematical skills, we will emphasize strongly that education is a lifelong enterprise. Further, we will stress that now both the quality and length of life can be improved significantly through the achievement of a higher degree of kinetic awareness and through heightened experiences in sport, exercise, and related expressive movement.

Concluding Statement

The field of physical (activity) education needs to reassert its "Will to Win". The developments of the past 50 years have undoubtedly created an uneasiness within the field as an embryonic profession. They have raised doubts on the part of some as to our ability to achieve the highest type of professional status. Therefore, we pledge ourselves to make still greater efforts to become vibrant and stirring through absolute dedication and commitment in our professional endeavors. Ours is a high calling since we seek to improve the quality of life for all people on earth through the finest type of human motor performance in sport, exercise, and related expressive movement.

Editor's Note: Earle F. Zeigler, Ph.D., LL.D., D.Sc. is a dual citizen of Canada and the United States. With 65 years of professional service divided equally between both countries, his areas of special professional interest have been the history and philosophy, management theory and practice, professional preparation, and international and comparative aspects of physical activity education and educational sport. In the 21st century he has also been writing about North American human values, ethics, and personal decision-making.

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The mission of the journal is to meet the needs of the academic community from both a national and an international perspective. Thus, academicians and professionals engaged in or studying HPER•SD, and related activities, at all levels, are encouraged to contribute to the professional literature by submitting research-oriented manuscripts that will contribute and expand the knowledge base of the disciplines within our profession. The ICHPER•SD Journal of Research is exclusively what is termed a "research journal" and invites data based manuscripts representing cutting edge research.

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Articles are invited in the areas of health, physical education, adapted physical education, recreation, dance, sport, human performance, coaching, sports medicine, and sport management. This journal is international in scope in the sense that authors/researchers and topics can originate from any part of the world.

All manuscripts must be submitted in English. An original hard copy of the manuscript plus a computer CD (virus free) containing the article and any tables and/or figures (as separate files, in Microsoft Word®), should be submitted to:

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