Competitive Physical Activity Participation: Effect on Motivation of International College Students

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**Abstract**

During the past decade, there has been a dramatic increase in the number of international students enrolled in colleges across the United States. Many of these students are challenged by various constraints to participate in physical activities. This study was conducted to determine the rate of international students’ participation in competitive physical activities. Additionally, this study analyzed the differences in international students’ motivation between students that participate in competitive physical activity and students that do not participate in competitive physical activity. A total of 44 surveys were utilized that were collected from international students attending a university located in the southwest region. Participants completed the Exercise Motivation Inventory – 2 (EMI-2) with activity participation questions. The results indicated about 70 percent of international college students never or rarely participated in competitive physical activity. In addition, there were statistical differences in motivation of affiliation, challenge, and competition between non-competitive and competitive physical activity among international students. Campus recreation and international student program administrators may be able to encourage international students’ participation in competitive physical activity by incorporating strategies to stimulate their motivation.
Competitive Physical Activity Participation

Introduction

During the past two decades, the number of students enrolled in colleges in the United States (U.S.) has increased dramatically. College enrollment was 21 million in the fall of 2011, which was an increase of 5 million students compared to the fall of 2000. Enrollment in higher education institutions is expected to increase to 24 million by 2021 (Snyder & Dillow, 2013).

As the population of college students has been changing so has the distribution of race and ethnicity of the student population. Between the years 1990 to 2012 the percentage of white students declined from 79.9% to 60.3% of the student body (Snyder, 2014). Furthermore, the number of international students rose by 35.4% between the 2003-2004 and the 2013-2014 academic years. This brings the total number of international students attending college in the U.S. to 886,052 during the 2013-2014 academic year (Institute of International Education, 2014).

Previous research has supported the positive physical and mental health benefits of exercise and physical activities among college students. These benefits include physiological health, healthy weight management, higher self-esteem and happiness, and positive body image (Buckworth & Nigg, 2004; Furia, Lee, Strother, & Huang, 2009; Penedo & Dahn, 2005; Rivers & Dilger, 2015). However, 36.9% of college students indicated that they did not participate in at least 20 minutes of vigorous aerobic exercise within the week and over 30% of students were categorized as either overweight or obese ("American College Health Association-National College Health Assessment Spring 2008 Reference Group Data Report (Abridged): The American College Health Association," 2009).

Further compounding physical activity participation, rates for exercise and physical activity of international students (29%) were much lower than non-international students (46.5%) (Cho & Velasco, 2015). Many international students are challenged by various constraints to participate in physical activities such as lack of time due to work and study obligations, lack of motivation, and no personal affiliations (Shiftman, Moss, D’Andrade, Eichel, & Forrester, 2012). Additionally, a study by Guo and Ross (2014) showed that many Asian students were not interested in traditional college intramural sports but preferred informal sport participation. This lack of participation in physical activity has led many researchers to focus on students’ motivation to exercise (Markland & Hardy, 1993; Teixeira, Carraça, Markland, Silva, & Ryan, 2012).

To be motivated means to be moved to take action. There are basically two different types of motivation and are referred to as intrinsic and extrinsic motivation. Intrinsic motivation occurs when an individual participates in an activity to simply experience the pleasure that is inherent in the activity and is purely an autonomous event (R. M. Ryan & Deci, 2000; Vallerand, 1997). For example, a person may choose to spend an afternoon playing basketball simply for enjoyment of the game. Extrinsic motivation lacks autonomy and is done in order to gain some type of reward or to avoid punishment (R. M. Ryan & Deci, 2000). For example, a child may play basketball because it is a required part of the school curriculum or he or she may feel pressured by their parents. Studies have shown that people who participate in activities for intrinsic reasons are more likely to enjoy and persist in the activity (Richard M. Ryan, Frederick, Lepes, Rubio, & Sheldon, 1997).

Most colleges provide recreational programs for students with the goal of helping students become active and healthy (Sturts & Ross, 2013). However, there has been limited research into differences in motivation among international students. Additionally, there has been limited research into the differences in motivation between students that participate in competitive physical activity and students that do not participate in competitive physical activity.
The purpose of this study was to determine the percentage of international students that participate in competitive physical activities and to determine if differences occur in international students’ motivation to participate in competitive physical activity compared to international students that do not participate in competitive physical activity.

Methods

Participants and Procedures

Convenience sampling was utilized to determine the level of participation in physical activities of international college students and their motivation to participate in exercise. Students were recruited from a regional public four-year university located in the southwestern U.S. The university where the study was conducted had approximately 1,900 international students from 97 countries.

International students were recruited to participate in the survey through their respective campus’ office of International Students Scholar that allocated the survey in a corresponding e-mail with a link to the survey. All participants were informed of the anonymity of the study and proper approval was obtained from the Institutional Review Board of the higher education institution of the researchers. Consent to participate was indicated by clicking on the entry link of the survey in the e-mail. A total 63 college students completed the survey but due to incomplete survey responses, only 44 of the surveys were usable (23 male and 21 female students).

Instrument and Data Analysis

The survey template consisted of competitive physical activities participation, the EMI-2 and gender. Participation level of competitive physical activities was determined by asking respondents to mark the box that best represented their level of participation in competitive activities. They were provided four options consisting of never, rarely (one or less times a month), occasionally (2~3 time a month to once a week), and frequently (2~3 times a week to daily).

To examine the international students’ motivation to participate, the Exercise Motivations Inventory – 2 (EMI-2) was utilized to survey students’ exercise motivations (Markland & Ingledew, 1997). The EMI-2 is composed of 51 items with a five-point Likert-scale ranging from zero (not at all true for me) to five (very true for me). These items are comprised 14 subscales which are calculated by taking the mean of 3 to 4 appropriate items based on the scoring key by creators of the EMI-2 (Ingledew, Markland, & Medley, 1998; Markland & Ingledew, 1997). These subscales include affiliation (e.g., “To spend time with friends;” \( n = 4 \)), appearance (e.g., “To help me look younger;” \( n = 4 \)), challenge (e.g., “To give me goals to work towards;” \( n = 4 \)), competition (e.g., “Because I like trying to win in physical activities;” \( n = 4 \)), enjoyment (e.g., “Because I enjoy the feeling of exerting myself;” \( n = 4 \)), health pressures (e.g., “Because my doctor advised me to exercise;” \( n = 3 \)), ill-health avoidance (e.g., “To avoid ill-health;” \( n = 3 \)), nimbleness (e.g., “To stay/become more agile;” \( n = 3 \)), positive health (e.g., “Because I want to maintain good health;” \( n = 3 \)), revitalization (e.g., “Because it makes me feel good;” \( n = 3 \)), social recognition (e.g., “To show my worth to others;” \( n = 4 \)), strength and endurance (e.g., “To build up my strength;” \( n = 4 \)), stress management (e.g., “To give me space to think;” \( n = 4 \)), and weight management (e.g., “To stay slim;” \( n = 4 \)).
The Statistical Package for the Social Science 21 (IBM Corp., 2012) for Windows was utilized to analyze data reliability, descriptive statistic, demographics, and the EMI-2. Reliability of the EMI-2 of 51 items in this study was confirmed by the Cronbach alpha coefficient measurement of 0.965. A Cronbach’s alpha coefficient of 0.70 higher is considered an acceptable value of alpha for studies in the social sciences (Nunnally & Bernstein, 1994). Due to convenience sampling, this study used the Mann-Whitney $U$ nonparametric test for the relationship between non-competitive/competitive physical activity and the mean scores of the 14 subscales.

Results

Data were analyzed to determine the frequency of participation in competitive physical activity among international students. The results indicated that about 68.28 percent of international students never or rarely participate in competitive physical activity. However, approximately 27.38 percent of respondents participated in competitive physical activity occasionally, and less than 4.58 percent of them participated in competitive activity frequently (Table 1).

Table 1

Frequency of Competitive and Physical Activity Participation

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Competitive</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Percent (%)</td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>19</td>
<td>43.20</td>
<td></td>
</tr>
<tr>
<td>Rarely (one or less than a month)</td>
<td>11</td>
<td>25.08</td>
<td></td>
</tr>
<tr>
<td>Occasionally (2~3 times a month to once a week)</td>
<td>12</td>
<td>27.38</td>
<td></td>
</tr>
<tr>
<td>Frequently (2~3 times a week to daily)</td>
<td>2</td>
<td>4.58</td>
<td></td>
</tr>
</tbody>
</table>

In an attempt to better understand the motivation to exercise of international students that participate in physical activity, the means of 14 subscales were ranked in Table 2. The subscale that received the highest motivation was positive health. Ill-health avoidance, revitalization, strength and endurance, and weight management were among the top five motives to participate in physical activity among international students. In contrast, health pressure was the lowest mean rating of motivation among international students followed by social recognition, competition, affiliation and appearance (Table 2).

Table 2

Descriptive Statistics and Ranking of Exercise Motivations Inventory-2 (EMI-2)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliation</td>
<td>2.02</td>
<td>1.64</td>
<td>11</td>
</tr>
<tr>
<td>Appearance</td>
<td>3.33</td>
<td>1.26</td>
<td>8</td>
</tr>
<tr>
<td>Challenge</td>
<td>2.44</td>
<td>1.55</td>
<td>10</td>
</tr>
</tbody>
</table>
In order to compare differences in motivations between students that participated in competitive physical activity and those that did not or rarely participated in physical activity, students were divided into two groups. Group 1 (non-competitive) was composed of students that indicated they did not or rarely participated in competitive physical activity. Group 2 (competitive) consisted of students that indicated they participated in competitive physical activity either occasionally or frequently. Differences in motivation of the two groups were analyzed using a Mann Whitney U test as shown in Table 3. Statistical differences in motivation were indicated for affiliation, challenge, and competition between non-competitive and competitive physical activity among international students.

Table 3

Mann-Whitney U Test Results Table

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Competitive Physical Activity and EMI-2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U scores</td>
</tr>
<tr>
<td>Affiliation</td>
<td>120.50</td>
</tr>
<tr>
<td>Appearance</td>
<td>191.50</td>
</tr>
<tr>
<td>Challenge</td>
<td>117.50</td>
</tr>
<tr>
<td>Competition</td>
<td>100.00</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>135.00</td>
</tr>
<tr>
<td>Health pressures</td>
<td>196.00</td>
</tr>
<tr>
<td>Ill-health avoidance</td>
<td>179.50</td>
</tr>
<tr>
<td>Nimbleness</td>
<td>181.00</td>
</tr>
<tr>
<td>Positive health</td>
<td>174.00</td>
</tr>
<tr>
<td>Revitalization</td>
<td>154.50</td>
</tr>
<tr>
<td>Social recognition</td>
<td>139.50</td>
</tr>
<tr>
<td>Strength and endurance</td>
<td>152.00</td>
</tr>
<tr>
<td>Stress management</td>
<td>162.00</td>
</tr>
<tr>
<td>Weight management</td>
<td>185.00</td>
</tr>
</tbody>
</table>

Note: *p<.05, **p<.01
Discussion

The purpose of this study was to examine the relationship between participation in competitive physical activity and motivation among international college students. Based on the results, this study found that approximately 43 percent of international students did not participate in competitive physical activity. Furthermore, almost 70 percent of international students participated in competitive physical activity less than once a month. These results are supported by previous research indicating that 46.5 percent of international college students did not participate in competitive sports activity (Cho & Velasco, 2015). In further support of these findings, international college students had significantly lower participation in competitive physical activity or recreational sport programs than non-international students because of cultural differences (Li & Stodolska, 2006; Walker, Jackson, & Deng, 2007), and intrapersonal, interpersonal and structural constraints such as lack of emotion, friends, or time to participate in competitive physical activity programs (Guo & Ross, 2014; Shifman et al., 2012).

The result of the EMI-2 test indicated that international college students were more likely to participate in physical activity for maintaining positive health and ill-health avoidance. Supporting these findings is research by Ebben and Brudzynski (2008) in which the most common responses that college students gave for participating in physical activity was general health followed by maintaining fitness and stress reduction. Another study, for international college students, reported that keeping good health and physical condition were one of the most important motivations for students to become involved in physical activity (Yoh, 2009).

Examining the differences between frequency of participation in competitive physical activity and student motivation, the current study found that affiliation, challenge, and competition are likely to affect international students’ participation in competitive physical activity. This results is mirrored in a previous study indicating that college students were more likely to be motivated by challenge for engaging in sport activities (Kilpatrick, Hebert, & Bartholomew, 2005). It is interesting to note that even though international students rank positive health and ill-health avoidance as their primary reason for participating in physical activity, students that participate in competitive physical activity are more likely to be motivated by affiliation, challenge or competition. The researchers believe international students might regard their general physical activity and competitive physical activity separately.

Limitations/Future Directions

This study was conducted using convenience sampling from a southwestern regional public four-year university via the international student’s e-mail which limits the generalizability of these findings. Future studies from different regions and populations are needed to further generalize the results. Additionally, low response rates were one of main limitations of this study and additional respondents may strengthen the statistical power of future studies. Lastly, this study did not provide any specific results based on sex, age, length of time in the U.S., and nationalities that might affect the outcomes of international students’ motivations.
Conclusions

As international students travel to the U.S. to focus on their studies, the researchers believe that they may have higher constraints/standards to participate in physical activity than non-international students’. Therefore, it may be important that campus wellness and recreational professionals implement different strategies to help international students engage in competitive physical activity. University programs that focus on competitive physical activity programs should seek ways to promote the positive health and ill-health avoidance aspects of their programs to international students.

It is important to note that frequency of competitive physical activity participation among international college students was much lower than non-competitive physical activity participation. Campus recreation or international student program administrators may be able to encourage international students’ participation of competitive physical activity by stimulating their motivation based on the results of this study such as encouraging affiliation, challenge or competition. For instance, intramural sports program, recreational sports club or international student sport Olympics might be beneficial for international students to participate in competitive physical activity.

References


Institute of International Education. (2014). Open Doors 2014: International Students in the United States and Study Abroad by American Students are at all-Time High. Washington, D.C.


