Analysis of Physical Activity Behavior and Motivation in Students

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ABSTRACT

Background: Despite the many benefits of an active lifestyle, lack of physical activity is a significant health problem for students.

Objective: This research uses a descriptive research design. The purpose of this descriptive research is to determine the basic level of physical activity behavior, motivational factors, in order to develop tailored or targeted physical activity programs and interventions for students. This research consisted of 20 male students and 20 female students.

Method: The collection methods used in this research are: physical activity behavior using GLTEQ (Goding Leisure-Time Exercise Questionnaire), physical activity motivation using EMI-2 (Exercise Motivation Inventory-2) and Ability to use Self three types (Task, Coping and scheduling).

Results: The results show that the physical activity of 28% of women and 45% of men from the entire sample participated in 20 minutes of vigorous activity, while only 17% of women and 10% of men from all participants participated in 30 minutes of less physical activity and for 5-day 13% female and 18% male of all students. The conclusion shows that students' physical activity behavior is lacking in physical activity behavior with low physical activity with a description of motivation and self-efficacy in maintaining health and physical fitness.

Conclusion: Recommendations for further research are that the parties concerned pay more attention to physical activity behavior, motivation and self-efficacy in students because the benefits of regular physical activity will make the body healthy and increase constructive physical activity behavior.

KEYWORD: Physical activity; motivation; self-ability; student

INTRODUCTION

Physical activity has received a lot of attention for its role in preventing and treating disease. To stay healthy the American College of Sports Medicine and the American Heart Association recommend engaging in at least 30 minutes of moderate-intensity aerobic physical activity on 5 or more days per week, or 20 minutes of moderate-intensity aerobic physical activity three or more days per week or a combination of both (Haskell et al., 2007).

The most important thing in physical activity when doing activities is self-motivation. This research examines motivation for physical activity but is still in its early stages. Preliminary results show that motivation to participate in physical activity is very necessary in life.
Surprisingly, research on college students is very limited (Keating et al., 2005). Some researchers believe that part of college students' motivation to participate in physical activity is primarily for good performance (e.g., intrinsic motivation) and not health related (e.g., internal motivation) (Leslie, Owen, Salmon, Bauman, Sallis, and Lo, 1999. Motives Physical activity specifically for men found muscle gain, while the motive for women was weight loss or control (Leslie et al., 1999).

Similarly, Kilpatrick, Hebert, Bartholomew (2005) women were found to be more motivated to manage their weight compared to men to prefer challenges, social approval and power compared to women. Research on physical activity motivation among college-aged adults is limited and further research is needed. Understanding college students' motivations for physical activity can help develop tailored physical activity interventions to meet the needs of these youth. The current research adds to the existing motivation literature by examining gender differences among college students. Previous research has been unable to examine important differences in physical activity values and motivation.

Additional knowledge and understanding of college students' physical activity behavior and its determinants may provide a fundamental basis for modifying body composition and improving overall physique in this population (Keating et al., 2005). The focus on college students is important due to the multiple transitions and developments faced during college and young adulthood (Gokee-LaRose, Goring, & Wing, 2009). Thus, the aim of this study was to assess the level of basic physical activity and social determinants of physical activity in university students. The following research questions support the overall goal of this investigation: (1) What are the physical activity patterns of college students; (2) Engage in different levels of physical activity based on gender and grade level; (3) Do different physical activities based on gender and grade level; and (4) Does self-efficacy for physical activity differ by gender and grade level?

This information was collected to assist in the development of a comprehensive campus health intervention and is the first phase of a multi-intervention to increase physical activity on college campuses. It was also important to note the cohort of students included in this study that would be followed over four years. This longitudinal approach will examine physical activity changes and corresponding key conjunctive factors over the four years of higher education into adulthood. The absence of longitudinal studies has been identified as a deficiency in the physical activity literature involving college students (Keating et al., 2005).

METHOD

Research design

This research uses a descriptive survey design. Independent factors were gender (male and female) and class position (first year, second year, junior or senior). The dependent variable is the GLTEQ score, a self-efficacy subscale score. SPSS for windows (v17.0 Chicago, IL) was used for all statistical analyses. A series of 2x4 (class x gender) multivariate analyzes of variance (MENOVA) were used to determine whether there were significant differences in physical activity, GLTEQ subscales, physical activity motivation and self-efficacy in college students. The level of significance was set at p (less than 0.05 in all analyses).

Samples

There were 40 participants in the sample, consisting of 20 women and 20 men. Participants include students from the class of 2023, both juniors and seniors.
Research Instruments

Physical activity behavior. Current physical activity level using a timed exercise questionnaire (Goding & Shephard, 1985). GLTEQ is a self-report instrument that can be used to estimate a person's frequency of physical, moderate and light activity per week. Previous research has shown that the GLTEQ is easy to implement and understand, is responsive to changes in exercise behavior, and has demonstrated acceptable reliability and validity (Goding & Shephard, 1985).

The GLTEQ was modified to also assess duration of physical activity by asking the participant how long (minutes), on average, he or she participated in vigorous, moderate, and light exercise during the week. In this study, physical activity frequency was defined as the number of exercise events (i.e., exercise sessions) over a 7-day period and was calculated summing the number of sessions in exercise. Duration of physical activity is defined as the total minutes taken per exercise over a typical 7 day period and this is determined by adding the number of minutes engaged in exercise (heavy, moderate and light) over a typical seven day period. This study defines physical activity intensity as the number of metabolic equivalent values (METs) of the activity a participant undertakes over a typical 7-day period, multiplied by the number of minutes per activity. Then it can be defined how long (minutes) an individual participates at different MET levels of 9, 5 and 3 METS for heavy, moderate and light exercise, respectively (i.e., 1 MET = rest/sitting; 3 walking, minimal effort; 5 = jogging, moderate breathing, light sweating, 9 = running, heart beating fast) (Goding & Shephard, 1985). The TPA total physical activity score is determined by multiplying the MET value by the frequency of activity for each level of exercise (vigorous, moderate and light) and adding the three parts. The GLTEQ model designed is the same as this research, obtaining acceptable reliability and validity (Reed & Phillips, 2005).

Motivation for physical activity. Exercise Motivation Inventory-2 (EMI-2) (Markland & Ingledew, 1997) used as a way to identify forms of motivation for participants in learning. The EMI-2 is a 51-item self-report questionnaire that can broadly measure various forms of exercise in adult men and women. It has 14 sections: (1) Stress Management, (2) Revitalization, (3) Enjoyment, (4) Challenges, (5) Social recognition, (6) Affiliation, (7) Competition, (8) Health stress, (9) Avoiding poor health, (10) Positive health, (11) Weight management, (12) Appearance, (13) Strength and endurance, and (14) Agility. Shares are calculated by adding up the numerical equivalents for each item associated with the section and then dividing by the number of items that make up each section.

The EMI-2 administration asked participants to indicate whether or not each statement item would be true for them if they exercised. Responses to each question were made on a 6-point Liker-type scale ranging from 0 (not at all true for me) to 5 (very true for me). The EMI-2 has satisfactory psychometric properties with support for the scale's internal consistency with alpha coefficients ranging from 0.68 to 95 (Markland & Ingledew, 1997). Confirmatory factor analysis showed that the EMI-2 was able to differentiate men and women with respect to their training motives (Markland & Ingledew, 1997).

RESULT

Physical Activity

28% of women, 45% of men of all students engage in 20+ minutes of vigorous activity 3 or more days per week. Only 17.5% of women, 10.5% of men and 10.7% of all students participated in 30 minutes or more of physical activity on 5 or more days per week. 18.5% of
women and 13.4% of men, and 18.4% of all students did not engage in moderate or vigorous physical activity.

Table 1.
Mean Values and Standard Deviations for Frequency, Duration, Intensity, and Amount of Physical Activity (TPA) Based on Gender and School Year (N=40).

<table>
<thead>
<tr>
<th>Variable</th>
<th>FR</th>
<th>SO</th>
<th>JR</th>
<th>SR</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency M</td>
<td>10.10</td>
<td>9.08</td>
<td>9.01</td>
<td>9.05</td>
<td>8.86</td>
<td>9.80</td>
<td>9.32</td>
</tr>
<tr>
<td>SD</td>
<td>3.20</td>
<td>10.50</td>
<td>5.60</td>
<td>5.41</td>
<td>5.28</td>
<td>8.80</td>
<td>7.20</td>
</tr>
<tr>
<td>Duration M</td>
<td>703.60</td>
<td>557.20</td>
<td>490.12</td>
<td>518.15</td>
<td>531.61</td>
<td>502.63</td>
<td>517.80</td>
</tr>
<tr>
<td>SD</td>
<td>650.35</td>
<td>842.92</td>
<td>120.03</td>
<td>513.06</td>
<td>804.07</td>
<td>867.20</td>
<td>135.82</td>
</tr>
<tr>
<td>Intensity M</td>
<td>4,911</td>
<td>1,911</td>
<td>1,974</td>
<td>1,960</td>
<td>2,010</td>
<td>1,881</td>
<td>2,911</td>
</tr>
<tr>
<td>SD</td>
<td>3,850</td>
<td>1,562</td>
<td>1,734</td>
<td>1,912</td>
<td>1,661</td>
<td>1,930</td>
<td>1,753</td>
</tr>
<tr>
<td>TPA M</td>
<td>52.83</td>
<td>52.60</td>
<td>50.62</td>
<td>52.55</td>
<td>51.50</td>
<td>51.30</td>
<td>90.79</td>
</tr>
<tr>
<td>SD</td>
<td>5.77</td>
<td>30.18</td>
<td>32.30</td>
<td>48.43</td>
<td>35.12</td>
<td>36.52</td>
<td>31.77</td>
</tr>
</tbody>
</table>

Note: Frequency = occurrence of practice bouts; duration = number of minutes of exercise for 7 days; Intensity= MET value duration x; TPA = total physical activity = MET value x frequency; Met metabolic equivalent. FR = new student; SO = second year student; JR = junior; SR=senior.

Table 2. Mean Values and Standard Deviations for EMI-2 Subscales Based on gender (N=40). Standard deviation values for the EMI-2 subscales by gender are reported in Table 2. Tests of between-subjects effects showed men, compared to women, were more motivated by challenge, F (2.31) = 0.68, p < 0.00, social recognition, F (2.64) = 1.27, p < .001, dues, F (2.88) =1.41, p < .001, competition, F (3.31) = 1.60, p < .001, health stress, 1.51) =1.27, p=.007, and strength, F (2.93) = 1.93 p<.001. Tests of between-subjects effects also showed women, compared with men, were more motivated by stress management, F (3.73) = 0.15, p = 0.028, positive health, F (4.70) = 0.15, p < 0.001, weight management, F(2.03) =1.29, p<.001, appearance, F(5.23) = 0.93, p <.001, and agility, F (2.00) = 0.65, p = .001.

Table 2.
Mean Values and Standard Deviations for EMI-2

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress Management</td>
<td>1.73 (0.15)</td>
<td>1.14 (1.14)</td>
</tr>
<tr>
<td>Positive Health</td>
<td>1.70 (0.55)</td>
<td>4.31 (0.82)</td>
</tr>
<tr>
<td>Weight Management</td>
<td>4.03 (1.49)</td>
<td>3.39 (1.09)</td>
</tr>
<tr>
<td>Appearance</td>
<td>1.27 (0.90)</td>
<td>3.21 (0.97)</td>
</tr>
<tr>
<td>Agility</td>
<td>2.60 (0.65)</td>
<td>3.22 (1.35)</td>
</tr>
<tr>
<td>Challenge</td>
<td>2.31 (0.68)</td>
<td>2.49 (1.15)</td>
</tr>
<tr>
<td>Social Recognition</td>
<td>2.54 (1.27)</td>
<td>1.56 (1.10)</td>
</tr>
<tr>
<td>Affiliate</td>
<td>2.88 (1.41)</td>
<td>2.50 (1.17)</td>
</tr>
<tr>
<td>Competition</td>
<td>3.13 (1.60)</td>
<td>2.50 (1.43)</td>
</tr>
<tr>
<td>Health Stress</td>
<td>3.58 (1.27)</td>
<td>1.25 (1.24)</td>
</tr>
<tr>
<td>Strength</td>
<td>2.53 (1.93)</td>
<td>2.48 (1.80)</td>
</tr>
<tr>
<td>Revitalization</td>
<td>3.15 (1.04)</td>
<td>4.12 (1.33)</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>2.52 (1.09)</td>
<td>3.02 (1.52)</td>
</tr>
<tr>
<td>Health Avoidance</td>
<td>3.13 (1.07)</td>
<td>3.30 (1.92)</td>
</tr>
</tbody>
</table>

p < .05, p < .001
**Motivation**

Table 3. Deviation Scores for the Exercise Self-Efficacy Subscale by Gender (N = 40).

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability tasks</td>
<td>2.15 (1.62)</td>
<td>1.50 (1.42)</td>
</tr>
<tr>
<td>Self</td>
<td>2.81 (1.95)</td>
<td>2.48 (1.83)</td>
</tr>
<tr>
<td>Scheduling</td>
<td>2.48 (0.13)</td>
<td>3.14 (1.14)</td>
</tr>
</tbody>
</table>

**DISCUSSIONS**

Based on the results of this study, the discussion is to determine the development of physical activity at the college level. About 50% of the total sample meets for vigorous physical activity (Haskell et al., 2007). This result is similar to the 55.3% found by (Nelson et al, 2007). Only 11% of our sample met ACSM and AMA recommendations for moderate physical activity (Haskell et al., 2007).

The remaining participants (20%) failed to meet recommended guidelines for physical activity and 24% of the overall sample did not engage in high or moderate intensity physical activity. Much of the inactivity now seen in this study is similar to previous investigations in the general adult population (USDHHS, 2000) and student populations (Leslie et al., 1999). In particular, female college students showed higher levels of physical activity than male college students. This is an indication of the degree of inactivity associated with gender. This suggests health promotion professionals should consider gender differences when designing physical activity programs for college-age adults.

Differences in physical activity behavior based on years in school were not found in the study. In other forms, male participants engaged significantly more vigorously and moderately per session of physical activity than women. (Nelson et al, 2007) also found men to engage in stronger physical activity than women. Female participants in the study performed significantly more light exercise sessions per week than men. The findings suggest the type and amount of physical activity may differ by gender. Other cases have yielded similar findings with female college students who engaged in less strenuous physical activity than male college students (Keating et al., 2005).

The findings further support the idea that health promotion professionals should consider gender differences when designing physical activity programs for college-age adults. In particular, they should target female college students to engage in stronger and moderate intensity activities.

Analysis of participants' motivation in physical activity differed by gender but not by year in school. The gender-based analysis revealed some interesting findings. Women were found to be more motivated by weight management, appearance, agility, positive health, and stress management. These findings suggest college women have greater concerns related to maintaining their positive health, well-being, and particularly weight than college men. Women’s greater concern for fitness, appearance, and weight seems appropriate based on previous data showing that young women are more likely to be overweight than men of the same age (USDHHS, 2000). This discovery could be due to the pressures women often experience early in life due to society’s active standards of women’s body size and shape (Hill, Draper, & Stack, 1994). The importance of physical activity that provides stress relief for these young women will help not only in weight management but also help in the management of stress related to body image expectations.
Different findings related to gender claimed men are more motivated than women by performance and ego-oriented factors, such as challenge, strength and endurance, competition, affiliation, and social recognition. These results are consistent with the findings of previous studies with men more motivated by activity that includes several performance factors (Ashford, Biddle, & Goudas, 1993). Later, this was supported by the idea that men were more likely to see physical activity as an opportunity to pursue and achieve ego-related goal outcomes (Kilpatrick, Bartholomew, & Riemer, 2003). Thus, men's tendency to seek challenges, such as very strenuous physical activity, can give them the opportunity to demonstrate mastery, competence, and gain social recognition (Kilpatrick et al, 2005).

CONCLUSION

Given the low levels of physical activity from adolescence to young adulthood, promoting health in higher education is faced with the daunting challenge of increasing physical activity participation among college students. Data from this study suggest there should be the development of physical activity due to the current level of inactivity. In addition, physical activity practitioners may need to consider gender when developing physical activity interventions for college students. In particular, to motivate male students to engage in physical activity, ego-oriented factors such as competition and challenge should be the theme of intervention. When motivating female students, factors related to positive health, weight management or stress should be the main factors of the program's focus. Targeting interventions based on years in school does not appear to be as important as gender.

The only way to investigate this study is to use the information gleaned from the study to develop physical activity promotion and programs tailored to meet the needs of young adults. Campus recreation centers can leverage research findings to better design and implement programs to meet the specific motives, needs, and desires of young adults attending college. In fact, admins and health can make physical activity interventions with the possibility of increasing physical activity behaviors constructive.

Limitations in this study, especially with regard to physical activity measurements. Estimates of physical activity can vary and depend on the type of measures used (Sarkin et al, 2000). The survey size has only a moderate correspondence to objective measures of physical activity (Westerterp, 2001). However, the cost of objective actions may make them impractical for investigations with limited funds (LaPorte, Montoye, & Caspersen, 1985). Another limitation is the cross-sectional design. Data on physical activity, motivation, and self-ability are collected at only one point in time and this can affect the results. The results of this study may have limited generalizations to students who attend community campuses, colleges outside the city, colleges with different admissions and demographic profiles, or other young adults who do not attend college.

REFERENCE


Analisis Perilaku Kegiatan Fisik Dan Motivasi Pada Mahasiswa

Latar belakang: Meskipun terdapat banyak manfaat gaya hidup aktif dengan baik, kurangnya aktivitas fisik merupakan masalah kesehatan yang signifikan bagi siswa.


Metode: Metode pengumpulan yang dipakai dalam penelitian ini adalah: perilaku aktivitas fisik dengan menggunakan GLTEQ (Goding Leisure-Time Latihan Kuesioner), Motivasi aktivitas fisik menggunakan EMI-2 (Exercise Motivation Inventory-2) dan Kemampuan menggunakan Diri tiga jenis (Tugas, koping dan penjdukan).

Hasil: Hasil menunjukkan aktivitas fisik 28% perempuan dan 45% laki-laki dari keseluruhan sampel yang ikut pada 20 menit penuh semangat, sementara hanya 17% perempuan dan 10% laki-laki dari seluruh yang berpartisipasi dalam 30 menit kurang aktivitas fisik dan selama 5 hari 13 % perempuan dan 18% laki-laki dari seluruh pelajar. Kesimpulannya menunjukkan kegiatan perilaku fisik pada siswa kurang dalam perilaku aktivitas fisik dengan aktivitas fisik yang rendah dengan gambaran motivasi dan kemampuan diri dalam menjaga kesehatan dan kebugaran fisik.

Kesimpulan: Rekomendasi untuk penelitian selanjutnya yaitu pihak yang terkait lebih mempedulikan lagi dengan perilaku aktivitas fisik, motivasi dan kemampuan diri pada mahasiswa karena manfaat dari aktivitas fisik yang teratur akan membuat tubuh sehat dan peningkatan perilaku aktivitas fisik yang membangun.

KATA KUNCI: Aktivitas fisik; motivasi; kemampuan diri; mahasiswa