



Physical Activity Knowledge, Habitual Physical Activity and the University Environment

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WHAT STARTS HERE CHANGES THE WORLD

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BACKGROUND

- Two thirds of university students are physically inactive and lack adequate rates of engagement of physical activity (PA) to have health benefits (Keating et al., 2005).
- Among possible interventions, a health-related fitness (HRF) knowledge approach receives attention because knowledge of PA and its health benefits is the foundation for people to regularly engage in PA (Kahn et al., 2002; Kulinna & Silverman, 2000).
- HRF knowledge mastery should be one of the approaches used to promote PA among students on campus, given the educational nature of universities.

PURPOSE

To examine physical activity knowledge (PAK) in college students and its relationship to habitual PA engagement in the university environment.

METHODS

- Participants:** A total 91 college students (N female = 48; 52.7%)
- Year in university:** freshmen (n = 9; 9.9%), sophomore (n = 17; 18.7%), junior (n = 22; 24.2%), senior (n=38; 36.3%), and 5th senior (n=10; 11%)
- Racial/ethnic backgrounds:** Caucasian (n= 42; 46.2%), 27.5% Asian (n= 25; 27.5%), Hispanic (n= 17; 18.7%), and African- American (n= 7; 7.7%)
- Major:** Kinesiology Major (KIN; n= 76; 83.5%) and : Non-Kinesiology Major (KIN; n= 15; 16.5%)
- Measurements and Instruments:**
 - PAK Test:** 40 multiple-choice items selected based on the fitness education domains recommended by NASPE for college students (2013)
 - PA Survey:** the self-reported international PA questionnaire (i.e., weekly PA patterns including both PA events, amounts and intensities). The PA intensities: vigorous PA (VPA), moderate PA (MPA), light PA (LPA), and sedentary PA (SPA)
- Data analysis:**
 - Pearson's correlation was used to examine the relationship between PAK and PA level (see Table 1)
 - Multiple regressions conducted to determine the likelihood of having PAK in university environment; dummy variable "dumgender" (for the impact of being female) and dummy variable "dumcaucasian or dumasian" (for the impact of being Caucasian or Asian) (see Table 2)
 - Univariate analysis used to compare the PAK scores between major, ethnicity, and school year, with using pairwise comparisons. (see Figure 1-3)

RESULTS

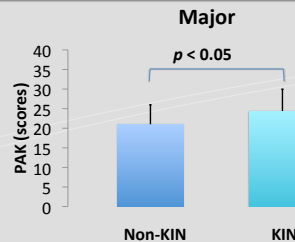


Figure 1. Group averaged scores for physical activity knowledge (PAK) in major. Score of PAK test was higher in kinesiology major ($p < 0.05$).

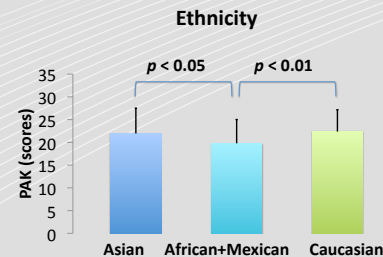


Figure 2. Group averaged scores for physical activity knowledge (PAK) in ethnicity. Score of PAK test was higher in Asian ($p < 0.05$) and Caucasian ($p < 0.01$)

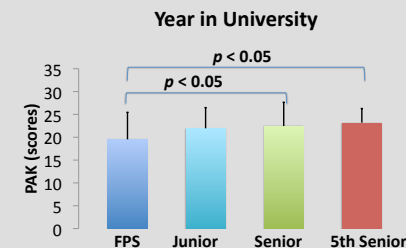


Figure 3. Group averaged scores for physical activity knowledge (PAK) in year in university. Score of PAK test was higher in Senior ($p < 0.05$) and 5th senior ($p < 0.05$). Abbreviations: FPS, freshmen plus sophomore

| Variable | 1 | 2 | 3 | 4 | 5 |
|----------------------|--------|--------|--------|-------|---------|
| 1. PAK Test (Scores) | - | | | | |
| 2. VPA (min) | -0.07 | - | | | |
| 3. MPA (min) | 0.10 | 0.39** | - | | |
| 4. LPA (min) | 0.15 | 0.54** | 0.49** | - | |
| 5. SPA (min) | -0.27* | 0.13 | 0.19 | 0.06 | - |
| Mean | 21.58 | 76.64 | 68.05 | 80.74 | 1045.48 |
| Standard deviation | 5.18 | 95.25 | 61.53 | 88.50 | 1251.88 |

* $p < .05$. ** $p < .01$.

Averaged score for physical activity knowledge (PAK) was negatively correlated with time spent in sedentary physical activity ($p < 0.05$).

| Predictor | R ² | β | t Value | P-value |
|--------------------|----------------|---------|---------|---------|
| | 0.18 | | | |
| Year in University | | 0.27 | 2.63 | 0.01 |
| Academic Major | | 0.28 | 2.87 | 0.01 |
| DumCaucasian | | 0.19 | 1.57 | 0.12 |
| DumAsian | | 0.16 | 1.37 | 0.17 |
| DumGender | | 0.15 | 1.53 | 0.13 |

Year in University ($\beta = 0.27$, $p < .01$) and academic major ($\beta = 0.28$, $p < 0.01$) were significant predictors of PAK scores and accounting for 16% of the total variance.

CONCLUSIONS & DISCUSSION

Ethnicity: PAK score was significantly higher Caucasian and Asian than African and Mexican students; there was lower levels of leisure-time physical activity in those groups.

Year In University: Participants who were a higher year in school were more likely to have an adequate amount of PAK knowledge, which might be attribute to the educational nature of universities.

Academic Major: Students who majored in Kinesiology had a higher HPAK than students who were not in the Kinesiology major. Non-majors lacked a minimum amount of HRF knowledge among the college students.

Association between HPAK and PA level: PAK was significantly correlated with time spent in SPA while it was not correlated with VPA, MPA, and LPA.

The findings of the study expand our understanding about the association between PAK and PA levels in a university setting.

Implications: Consequently, the university should consider requiring undergraduate students to take a conceptual physical education course to promote PA engagement and a positive attitude toward regular participation in PA.