



THE EFFECTS OF A UNIVERSITY FITNESS & WELLNESS COURSE ON PHYSICAL ACTIVITY INTENTIONS AND BEHAVIORS

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ABSTRACT

Purpose: To examine the effects of a university fitness and wellness course on enrolled students' physical activity and sedentary behavior, intentions to change their physical activity behavior, and the stage of behavior change they experienced across the semester in regards to physical activity.

Methods: Twenty-five participants, aged 19 to 24, completed three self-report questionnaires at three points during the semester. The questionnaires obtained information about the participants' physical activity and sedentary behaviors, intentions to engage in physical activity, and the stage of behavior change they were experiencing based on the Transtheoretical Model.

Results: Preliminary analyses showed significant changes in the affective domain of intention to exercise during the semester [$F(2, 48) = 3.3, p = .047$], with contrasts indicating a significant increase in affect related to exercise from Week 6 to Week 13 ($p = .047$). Though non-significant, there was a tendency for perceived opportunity to exercise, as well as, intentions to exercise to decrease across the semester. There were significant, moderate correlations ($r = 0.41 - 0.52$) between students' intentions to be physically active and their future physical activity levels. However, there were no significant changes in physical activity nor sedentary behavior across the semester. Lastly, 64% of participants differed from their original stage of physical activity behavior change during the semester.

Conclusion: Engaging in a university fitness and wellness course enhanced positive perceptions of physical activity; however, physical activity behaviors and intentions were not modified. Extraneous factors seem to be responsible for the lack of change observed based on personal reflections obtained from students.

INTRODUCTION

Studies have shown that sedentary levels in college students increased¹ due to determinants such as social environment, physical environment, and mental fatigue². In this age demographic, research³ has also revealed that a higher course load will negatively impact the amount of physical activity students will participate in, as well as, the intensity of it. Minimal research has been done on exercise intentions and its impact on the levels of physical activity (PA) based on the Transtheoretical Model⁴ and the Theory of Planned Behavior⁵ with the use of university-level health and wellness courses. The **purpose** of this study was to analyze the levels of PA and sedentary behaviors, the intentions to change PA behaviors, and the stage of behavior change over the course of a semester in a health and wellness course. It was **hypothesized** that with the implication of the course there would be positive changes in PA intentions and behavior.

REFLECTIONS ABOUT PA BEHAVIOR

- *"...the start of the semester, I was busy organizing my classes, work, and internship. Therefore, I did not prioritize exercise. Also, I was not aware of the benefits of PA and EX. My lack of knowledge did not motivate me to partake in PA."*
- *"Before taking this class, I was very physically inactive. However, once I started learning more about the benefits to physical activity and became more aware about how inactive I was, I started to become very deliberate about making changes in my lifestyle and incorporating physical activity into my weekly schedule."*
- *"I think the major factors in this trend are work, stress, and time management. I think that being at work 24 hours a week on top of school and a growing case of 'Senioritis' left me very unmotivated to exercise after I got home each day."*

METHODS

- Twenty-five young adults (mean age = 20.5 [1.2] years) enrolled in a university fitness and wellness course completed three self-report questionnaires across the course of a semester during Week 1, Week 6, and Week 13.

(1) International Physical Activity Questionnaire (IPAQ) – Short Form⁶

- Obtains information about physical activity and sedentary behavior engaged in during the past 7 days.

(2) Physical Activity Intentions Questionnaire⁵

- Assesses the various components that contribute to one's intention to be physically active (i.e. attitude, subjective norms, and perceived behavioral norms), as well as, self-proclaimed exercise intentions. This is multi-component model is based on the Theory of Planned Behavior.

(3) Stages of Behavior Change⁷

- Indicates the stage of behavior change an individual is experiencing in regards to begin physically active based on the Transtheoretical Model of Behavior Change:
 - Stage 1: Precontemplation
 - Stage 2: Contemplation
 - Stage 3: Preparation
 - Stage 4: Action
 - Stage 5: Maintenance

RESULTS

| | Week 1 | Week 6 | Week 13 | p-value |
|-------------------------------------|------------|------------|------------|---------|
| ATTITUDE | | | | |
| Affective | 15.6 (3.4) | 14.0 (4.2) | 16.1 (3.7) | 0.047* |
| Instrumental | 19.4 (2.6) | 17.4 (4.4) | 18.8 (3.3) | 0.14 |
| SUBJECTIVE NORM | | | | |
| Injunctive | 11.5 (2.6) | 11.2 (2.4) | 11.8 (2.3) | 0.55 |
| Descriptive | 8.7 (3.2) | 9.1 (2.9) | 8.6 (3.2) | 0.63 |
| PERCEIVED BEHAVIORAL CONTROL | | | | |
| Behavioral Control | 11.0 (2.5) | 10.6 (2.7) | 11.0 (2.4) | 0.56 |
| Skills | 12.6 (2.1) | 12.9 (1.4) | 12.7 (1.4) | 0.46 |
| Opportunity | 11.6 (2.3) | 11.4 (2.6) | 10.6 (2.7) | 0.09 |
| Resources | 12.0 (2.9) | 12.1 (2.2) | 12.6 (2) | 0.45 |
| EXERCISE INTENTIONS | | | | |
| Exercise Intentions | 10.9 (2.7) | 10.1 (3) | 9.8 (3.1) | 0.08 |

Table 1. Means and standard deviations of self-reported attitude, subjective norms, perceived behavioral control, and intentions to exercise from a proposed multicomponent model of the theory of planned behavior. p-values are provided from each 1 (Group) x 3 (Time) ANOVA (n = 25). *p < .05

| | Week 1 - Week 6 | Week 6 - Week 13 | Week 1 - Week 13 |
|--|-----------------|------------------|------------------|
| No Change | 64% | 52% | 60% |
| Progressed | 28% | 16% | 20% |
| Regressed | 8% | 32% | 20% |
| 36% of participants did not change across the entire semester | | | |
| 55% of those that did not change were in the maintenance stage | | | |

Table 2. Progression and regression through stages of physical activity behavior change across the semester.

| | Week 1 Exercise Intentions & Week 6 Physical Activity Level | Week 6 Exercise Intentions & Week 13 Physical Activity Level |
|----------------------|---|--|
| Weekly PA Moderate | 0.28 (p = .09) | 0.52 (p = .01)* |
| Vigorous | 0.31 (p = .07) | 0.41 (p = .02)* |
| Moderate-to-Vigorous | 0.35 (p = .05) | 0.52 (p = .01)* |

Table 3. Pearson correlations (r) and associated one-tailed p-values for self-reported exercise intentions and physical activity behavior. *p < .05

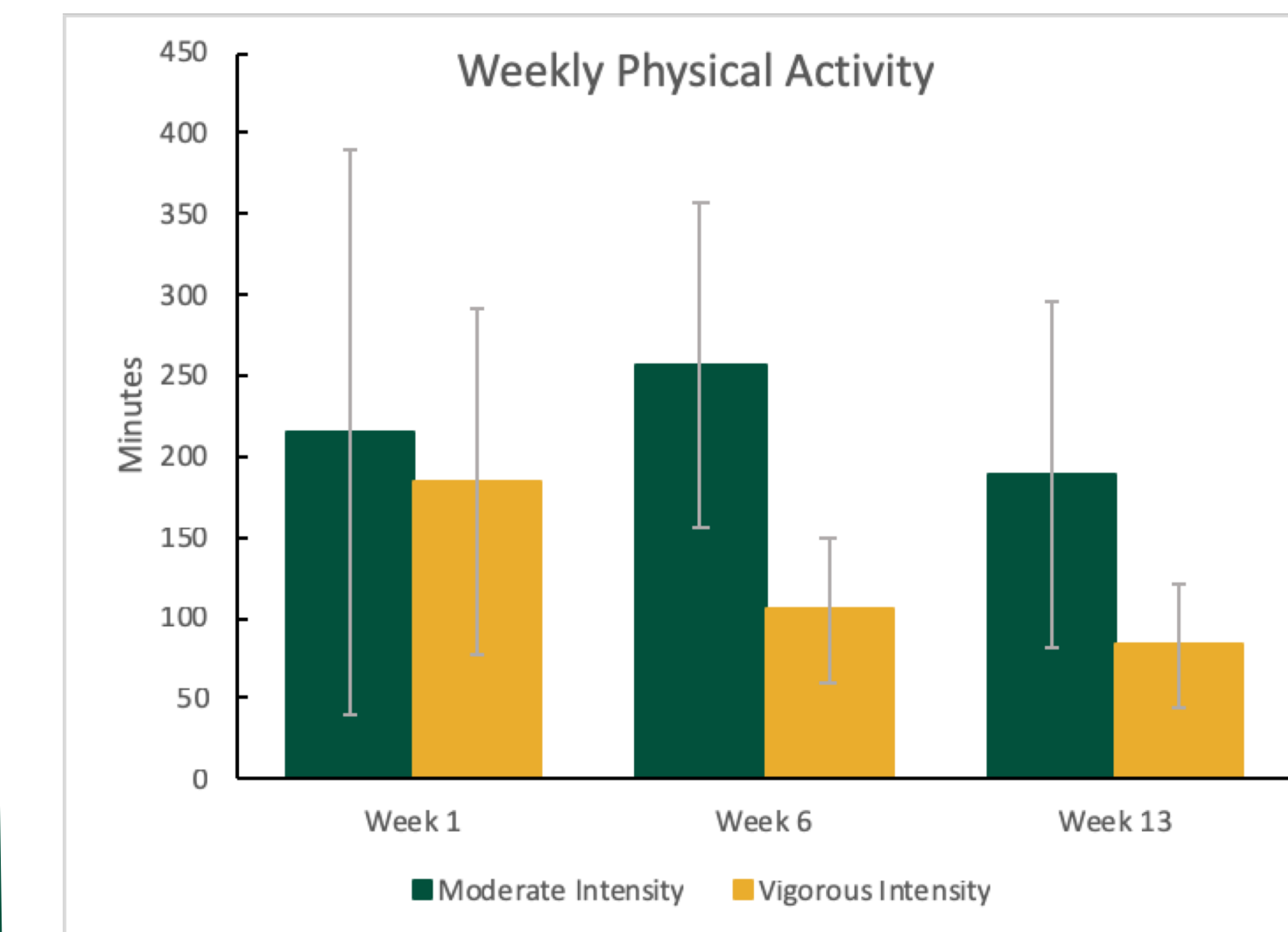


Figure 1. Mean number of self-reported minutes spent engaging in moderate- and vigorous-intensity physical activity across a 7-day period. The error bars represent the 95% confidence interval. No significant changes were observed for moderate-intensity $F(1.3, 25.3) = 0.3, p = .619, \eta^2 = .017$, nor vigorous-intensity, $F(1.4, 31.3) = 2.8, p = .09, \eta^2 = .108$, physical activity.



Figure 2. Mean number of self-reported hours spent engaging in sedentary behavior during a 7-day period. The error bars represent the 95% confidence interval. No significant changes were observed for sedentary behavior, $F(1.2, 18.7) = 2.0, p = .17, \eta^2 = .111$.

CONCLUSIONS

The anticipated outcome of positive behavioral changes toward physical activity with the implementation of the health and wellness course was not supported by the study conducted. Although, there was a significant change in the affective domain⁵ (Table 1) where students perceived physical activity as being enjoyable and beneficial. The results support the Theory of Planned Behavior⁵ such that intentions to exercise predicted physical activity (PA) behavior, as observed by the significant correlations during the second half of the semester (Table 3).

There is still a need for more studies on the promotion of health and wellness in the university setting and its effects on behavior change. The qualitative data illustrated a fluctuation in participation of PA throughout the semester due to obstacles that were extraneous to the course itself. One participant explained, *"Though it is the busiest time of the semester, I have to stop making school an excuse. If anything, I should want to go, as after a workout I feel better physically and mentally, and I feel very accomplished...What I can say I have improved on, however, is the time I have spent sitting per day."* Many students provided similar rationale for why their PA levels were negatively influenced by school-related responsibilities, which aligns with the quantitative data that showed reductions in perceived opportunity and intentions to exercise, as well as, PA behavior towards the end of the semester.

Future studies should consider the timing of the given questionnaires to the participants due to the common stressors that occur during a semester. In the research conducted, the first PA questionnaire analyzed the PA engaged in the week prior to the beginning of the semester, before dynamic college routines began. Based on anecdotal responses provided by students, it seems that PA behavior and intentions are negatively impacted by the circumstances students experienced when course-related workloads increase towards the end of the semester, creating an environment that formed a perception of lack of time and a change of priorities in regards to academic achievement versus health. One potential way to enhance the positive impact of the health and wellness course would be to disseminate more information about coping mechanisms and time-managements skills to assist with stress maintenance and organization of time and priorities.

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