Predictors of Physical Activity in Non-Traditional Aged College Students

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ABSTRACT

Purpose of the study: Physical activity (PA) declines as an individual transitions from high school to college. Therefore, the purpose of this study was to determine predictors of PA among non-traditional aged college students using 2011 National College Health Assessment (NCHA) data.

Methods: A total of 949 students (mean age = 26.52 y, SD = 8.95) completed an online NCHA survey in the Fall of 2011. A subset of demographic, personal, sociocultural, and environmental items was examined in the analysis. Logistic regression was used to identify significant predictors of recommended levels of moderate to vigorous (MVPA) and strength exercise (SE) participation.

Results: About 43% of students in this sample were either overweight or obese and 68% did not meet MVPA or SE recommendations. Current health status [β =.82 (MVPA), β =.95(SE)] and knowledge about PA [β =.43 (MVPA), β = .52 (SE)] were significant predictors of recommended MVPA and SE participation (p <.05). Interest in receiving information about PA (β = .33), perceived safety (β = .20) and overall stress (β = -.19) explained additional variance in whether students met the SE recommendation (p <.05).

Discussion: Findings have implications for increasing PA in this sample. A required course on active lifestyles is recommended for non-traditional students.

INTRODUCTION

Despite major health benefits of doing physical activity, nearly 5 of 10 university students did not meet the recommendations for doing physical activity (ACHA, 2011). Specifically, a major decline in physical activity occurred at the beginning of the freshman year of college (Han et al., 2008).

Given the decline in physical activity behaviors and the potential disease risks associated with physical inactivity (Levitsky et al., 2004) , it is important to understand the factors affecting physical activity behaviors in young adults at the university level.

Unfortunately, previous physical activity studies examined "traditional" university students (i.e. aged < 23 years) (Spitzer, 2000). Research is needed to examine predictors of PA on college campuses serving returning and older (i.e. aged > 25 years) students because the enrollment of non-traditional students is projected to increase from 7.9 million in 2010 to 9.7 million in 2019 across American universities (Snyder & Dillow, 2011).

It is also important to consider separating types of physical activity such as moderate-to-vigorous physical activity (MVPA) and strength training exercise (SE) to examine how predictors of these types of activity might vary

PURPOSE

The aim of this study was to conduct a secondary data analysis (using 2011 data from the National College Health Assessment II, NCHA II) to examine the predictors of PA on a campus that serves primarily non-traditional aged students.

METHODS

Participants: The study was conducted at Boise State University during the Fall of 2011. A random web-based survey, using procedures recommended by the ACHA was used to collect data. Students (N=949; mean age = 26.52; SD = 8.95) enrolled in four or more credits participated in the study.

Measures and Procedures: A subset of items from the National College Health Assessment (NCHA) was used in the current study, including students' current health status, knowledge about PA, perceived safety and perceived stress. Using all 27 items measuring students' stress, six component factors were extracted, explaining 58.31% of variance (See Table 2).

Respondents were also asked about the number of days they performed (a) moderate intensity cardio or aerobic exercise for at least 30 minutes, (b) vigorous intensity cardio or aerobic exercise for at least 20 minutes, and (c) 8-10 strength training exercises for 8-12 repetitions, performed during the past seven days. Their responses were recoded into "meet" or "did not meet" the MVPA and the SE recommendations, based on the MVPA and SE recommendations suggested by Haskell et al (2007) and American College of Sports Medicine (2009).

Data analysis: Data collected for this study were analyzed using the Statistical Package for the Social Sciences (SPSS, version 19.0) at a significance level of .05. Binary logistic regression analyses were conducted to test the hypotheses because the outcome variables (the probability of meeting or not meeting the PA recommendations) were dichotomous categorical variables.

RESULTS

Table 1 presents socio-demographic characteristics of the sample and details about which subgroups met the PA recommendations.

Table 2 presents the result of logistic regression predicting the probability of students meeting the MVPA and SE recommendations.

Current health status and knowledge about PA were significant predictors for meeting the MVPA recommendations. Specifically,

- students who reported "good and excellent health" were 2.26 times more likely to indicate meeting the MVPA recommendations than those who reported "poor health";
- students who had knowledge about PA were 1.53 times more likely to meet the MVPA recommendations than those who did not have knowledge about PA.

Factors that predicted meeting the SE recommendation included current health status, knowledge about PA, interest in receiving PA information, perceived safety and overall stress.

- Students who reported "good and excellent health" were 2.59 times more likely to indicate meeting the SE recommendations than those who reported "poor health";
- Students who had knowledge about PA and had interest in receiving information about PA were 1.69 and 1.39 times more likely to meet the SE recommendation.
- Also, students who had higher levels of perceived safety and lower overall stress had a 1.22 and .83 times higher chance of meeting the SE recommendation.

Table 1: Sample Characteristics and Subgroups Who Met the PA or SE recommendations

	N	%	Met MPVA recommendation	Met SE recommendation
Overall			**302 (31.9%)**	**293 (31.5%)**
Gender				
Male	292	31.1	95 (32.5%)	117 (40.6%)
Female	647	68.9	202 (31.3%)	172 (27.1%)
Ethnicity				
White	799	85.1	255 (32%)	225 (32%)
Other	140	14.9	42 (30%)	39 (28.7%)
Housing				
On-campus	139	14.7	64 (46%)	51 (37.2%)
Off-campus	691	73.3	201 (29.1%)	217 (32%)
Other	113	12.0	35 (31%)	24 (21.6%)
Body Mass Index				
Underweight/ Desired Weight	524	56.6	193 (36.9%)	177 (34.2%)
Overweight/ obese	**401**	**43.4**	**104 (25.9%)**	**109 (27.7%)**
Academic Performance				
Cumulative GPA: A	336	35.8	109 (32.4%)	105 (31.7%)
Cumulative GPA: B	443	47.2	136 (30.8%)	127 (29.2%)
Cumulative GPA: C or Below	160	17.0	52 (32.5%)	57 (36.3%)
Type of student				
International Student	54	5.8	14 (25.9%)	12 (23.1%)
U.S. Student	881	94.2	283 (32.2%)	277 (31.9%)

Table 2: Predicting the Probability of Students Meeting the MVPA and SE Recommendations

Predictor	Comparison	Met MVPA recommendation			Met SE recommendation		
		B	S.E	Odds	B	S.E	Odds
Current Health Status	Good and Excellent Health vs Poor Health	.82	.34	**2.26***	.95	.36	**2.59****
Knowledge about PA	Have Knowledge vs Have No Knowledge	.43	.15	**1.53****	.52	.16	**1.69****
Interest to Receive PA Inform.	Have Interest vs Have No Interest	.22	.16	1.25	.33	.16	**1.39***
Perceived Safety		.03	.08	1.04	.20	.09	**1.22***
Stress							
i		.07	.08	1.08	.07	.08	1.07
ii		-.23	.17	.80	.01	.07	1.01
iii		-.04	.08	.96	-.02	.08	.98
iv		-.10	.08	.91	-.10	.08	.91
v		-.09	.08	.91	-.19	.08	**83****
vi		-.16	.10	.86	.02	.08	1.02

Note: B: regression coefficient; S.E.: standard error; i, Perceived Negative Emotions; ii, Compulsion; iii, Diagnosis and Treatment of Mental Illness; iv , suicide; v, overall Stress; vi, Diagnosis and Treatment of Impulsivity; * p <.06; ** p <.01.

DISCUSSION

The most important findings of this study were:

- A large percentage of these non-traditional aged students were overweight/obese or did not meet the PA recommendations;
- Current health status and knowledge about participating in PA were positively associated with the probability of meeting the MVPA and SE recommendations;
- Interest in having PA information and perception of safety positively impacted the probability of meeting the SE recommendation;
- Overall stress level was another significant predictor of participation in SE. Lower overall stress level predicted a higher probability of meeting the SE recommendation.

From a practical standpoint, a challenge for health professionals on college campuses is figuring out how to get those who feel less healthy to be active.

Also, these findings point to the need for college campuses to offer additional training or education about PA to all levels of college students.

To promote SE, universities may consider offering *required* courses that teach about active lifestyles for students. Next, as perceived safety was another significant predictor of SE, a joint effort by university security and recreation centers could increase students' perceived safety. Moreover, consistent with previous research (Penedo & Dahn, 2005), students who reported higher levels of stress participated in less SE. Clearly, colleges should develop educational programs to minimize stress and promote the stress-busting properties of PA participation.

CONCLUSIONS

Finding from this study provide vital information for health professionals at universities serving non-traditional, older students to increase their PA on campus. Ideally, collaborative relationships between recreation centers, university security departments, university health services and related academic departments should be developed to promote PA on campuses holistically. Continued research efforts should be devoted to figuring out additional predictors of PA in college populations that explain additional variance in specific types of PA.

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