

# SJSU Undergraduate Research Grants

## Kinesiology Students' Knowledge of Physical Activity and Health-Related Fitness

Venus Shih & Seung Ho Chang, Ph.D.

Department of Kinesiology, College of Health and Human Sciences

### Abstract

The purpose of this study was to investigate undergraduate kinesiology students' content knowledge of physical activity (PA) and health-related fitness (HRF). A total of 136 undergraduate students (86 female and 50 male) ranged in age from 18 to 35 years ( $M = 21.8$ ,  $SD = 0.48$ ). All participants completed the Appropriate Physical Activity and Health-Related Fitness (APAHRF) knowledge test (Santiago, Morales, Disch, & Gaus, 2012). The total mean percentage score was 46.1% ( $M = 18.9$ ,  $SD = 4.08$ ). The mean percentage score for the PA and HRF categories of the APAHRF test was 46.5% ( $M = 9.3$ ,  $SD = 2.43$ ) and 45.7% ( $M = 9.6$ ,  $SD = 2.51$ ), respectively. Independent  $t$ -test,  $t(134) = .995$ ,  $p > .05$ , revealed no significant difference between males and females kinesiology students' content knowledge of PA and HRF. The KR-20 reliability coefficient of the APAHRF test for this sample yielded 0.57. The difficulty indices ranged from .03 to .96. Discrimination indexes (point biserial) ranged from -.00 to .53. The results of this study suggested an overall poor performance of the kinesiology undergraduate students on the APAHRF test.

### Research Findings

- Kinesiology students in this study showed inadequate levels of PA and HRF knowledge (i.e.,  $M = 18.9$  [46%]).
- In particular, kinesiology students scored poorly on items related to assessments of PA, PA guidelines, and CDC guidelines of BMI.
- The results of this study were consistent with previous studies conducted with pre-service (Barnett & Merriman, 1994; Harris, 2014; Santiago et al., 2016) and in-service physical education teachers (Castelli & Williams, 2007; Miller & Housner, 1998; Santiago et al., 2012).
- Although the content on what kinesiology courses the participants taken was not assessed, an implication can be about the importance of teaching applicable PA and HRF content in courses (e.g., exercise physiology) and instructional strategies (e.g., service-learning) to facilitate learning.

### Participants

- ✓ 136 undergraduate students (F=86; M=50) from a kinesiology program in the U.S.
- ✓ 18 to 35 years of age ( $M = 21.8$ ,  $SD = 0.48$ )

### Data Analysis

- ✓ Descriptive and inferential statistics
- ✓ Independent  $t$ -test, KR-20 and Item analysis

### Instrument

The Appropriate Physical Activity and Health-Related Fitness (APAHRF) knowledge test (Santiago et al., 2011).

The APAHRF consists of 41 multiple choice test items with two categories: (1) appropriate PA and (2) HRF

The APAHRF test was validated and yielded KR-20 reliability of 0.67 in previous investigations (Santiago et al., 2012).

### Procedures

The APAHRF knowledge test with an administration protocol was sent to the instructors

Participants were not allowed to use any materials as reference while taking the test and no time limit was set for test completion

Completed tests were sent to the investigators

Table 1. Means and SD of the APAHRF Test Scores

Variable	N	M	SD
Gender			
Female	86	19 (46.3%)	4.3
Male	50	18.6 (45.3%)	3.6
Total		18.9 (46%)	4.0

- ✓ Both males and females showed below 50% in the APAHRF test
- ✓ No significant difference between males and females :  $t(134) = .995$ ,  $p > .05$
- ✓ KR-20 = 0.57

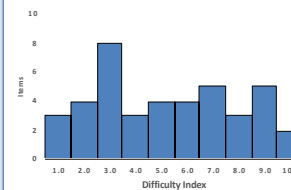


Figure 1. Histogram APAHRF Test Difficulty Index

Descriptor of poor performance	Percent
Inaccurate identification of physical activity assessments tools	92%
Did not accurately identify the least amount of minutes that children should participate in bouts of PA	97%
Did not accurately identify an instrument to assess children's physical activity habits	80%
Inaccurate identification of the CDC guidelines (BMI) for healthy weight in children and teens	95%

Figure 2. Areas of Poor Performance on the APAHRF Test  
Note: 80% or higher incorrect answer

### Research Questions

- What do kinesiology students know about physical activity and health related fitness ?
- Are there differences in knowledge of physical activity and health related fitness based on gender among kinesiology students?

### References

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