

Gender Analysis of Health Related Fitness Profile in College Students

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Abstract

Every student must have good fitness in order to be able to conduct an academic activities and their daily life. Good fitness can support student activities which ultimately improve their performance. The purpose of this research is to examine the differences of health related fitness of college student based on gender. The researchers used comparative method and Analyzed with independent sample t-test (significance at .05) to inference the result. Research instrument using Fitnessgram by Cooper Institute to collect the data of health related fitness included BMI, body fat percentage, flexibility, strength (upper body & core body), and Vo2Max. Research sample as much as 300 college students, both of female and male are Voluntary participated. Results showed that there are significance differences between female and male in Body fat percentage, Strength (upper & core body), and Vo2max. Males are higher than females on four item of health related fitness above, however, there are no differences on BMI and flexibility of students based on gender. Subsequent research is recommended to measure skill related fitness variables or implementation of fitness programs to increase HRF.

Keywords: Health Related Fitness, College, student, gender

Introduction

Inactivity lifestyle become a phenomenon in every country in the world including Indonesia and causes low physical fitness, various non-infectious diseases and even death. Regarding the fitness status of the Indonesian people, the 2006 Sport Development Index (SDI) stated that 37.40% were in the very poor category, 43.90% were poor, 13.55% were moderate, and only 5.15% were categorized as good and very good (Mutohir & Maksun, 2007). Physical inactivity mainly occurs in college students who incidentally there is no specific physical education learning in their curriculum, except in the sports program as Young, Sturts, & Ross (2015) examined that the majority of respondents did not participate in regular physical activity. Indonesian Ministry of Health in 2013 stated that the general proportion of physical inactivity in critical condition. Therefore, it must be an effort to solve and increase awareness to achieve lifelong active healthy lifestyle to maintain physical fitness. Concerns for the overall health, physical fitness, well being and academic achievement are at an all time high. Recently, many research has begun to build a relationship between physical activity and cognitive variables, research show that physical activity (PA) is not only incidentally related to cognitive function. Research also showed that Physical activity is also important for cognitive development, mood, memory, learning and concentration. Recognizing the importance of physical activity and fitness among students, several Universities in Indonesia integrate physical education courses into the curriculum. However, this course has not been improved physical fitness optimally. There are several factor behind such as the number of hours and meetings do not represent fitness program, physical education course are only has 2 credit, and the curriculum of physical education course in universities has not been tested both in content and structure. based on that reason, a proper physical education model is needed to foster student physical fitness while at the same time accommodating students' interests in sport. As an initial step, the analysis of the physical fitness profile of students is needed as a basis for determining the appropriate content and structure for physical fitness development models.

Method

This research used ex post facto method and compare the health related fitness profile of student based on gender, the variables compared were Body mass index, body fat percentage, flexibility, strength, and cardio vascular respiratory (VO2Max). Research sample as much as 300 college students both of female and male, simple random sampling technic was conducted. They were recruited from various study program and faculty in Universitas Pendidikan Indonesia, and they take a part in physical education course as long as one semester. After providing all the relevant study information, all participants signed an informed written consent before the study. The instrument for collecting data used is Fitnessgram developed by Cooper Institute, the item tests including are body mass index test, body fat percentage, flexibility test, upper & core body strength test, and cardio vascular test. Assessments of Student Health related fitness were undertaken after finished physical education course program at the end of semester. Each participants was tested by all item test in fitnessgram which based on 5 item test above. Finally all data collection was analyzed using Independent sample t-test with significance level at .05 to inference Health related fitness item based on gender.

Results and Discussion

Data were initially tested for normal distribution (Kolmogorov-Smirnov test) as well as homogeneity of variances (Levene test) and were provided as means and standard deviations (SD). The mean value of body mass index test, body fat percentage, flexibility test, upper & core body strength test, and cardio vascular test are shown in table, significantly difference value was found in body fat percentage, Upper & Lower body strength, and cardiovascular respiratory between female and male students. However, there are no significance difference in body mass index and flexibility between female and male students. Several significant comparison were found between the difference in Health Related Fitness responses between male and female students as shown in table below:

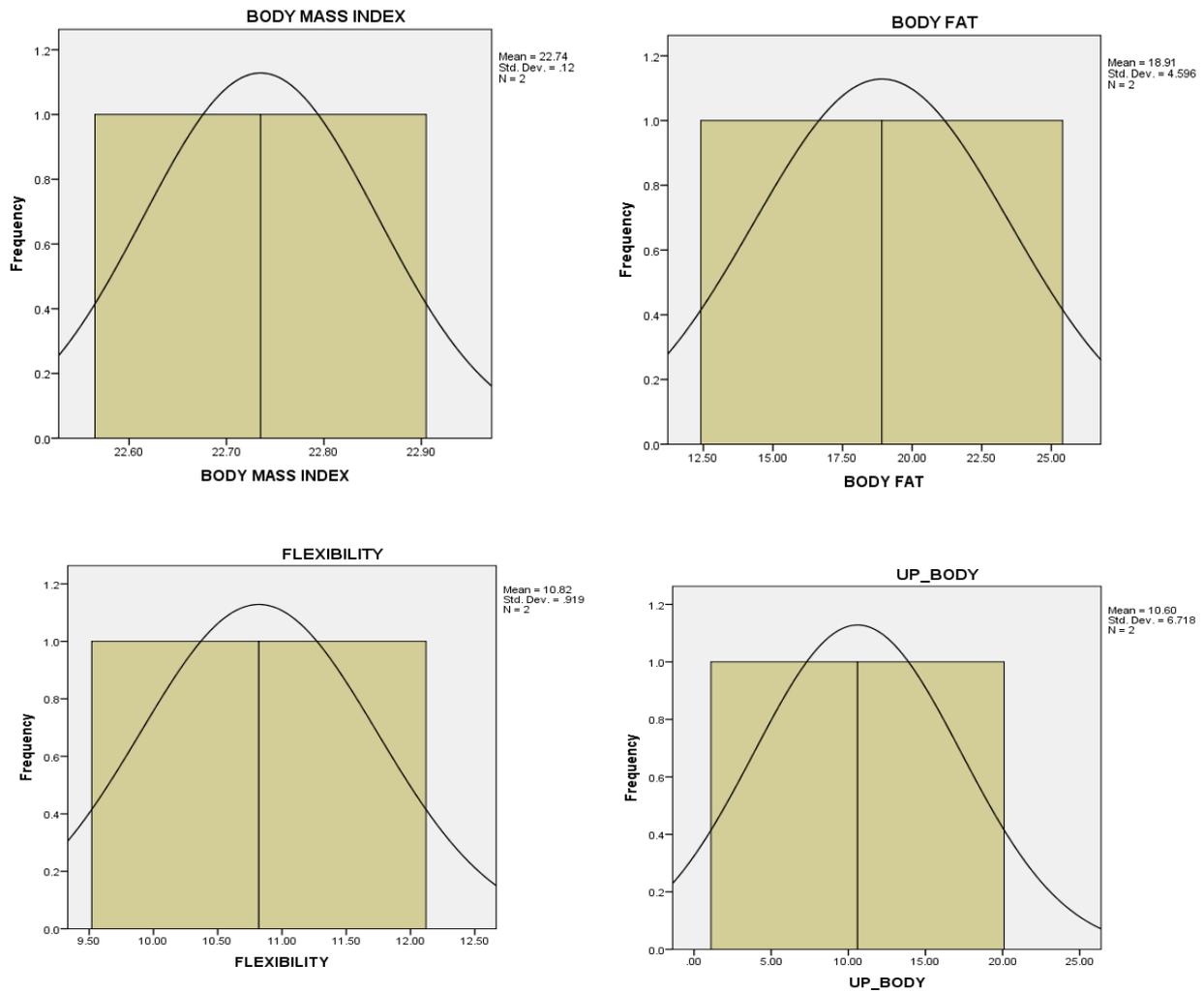
Table 1. Independent sample t-test of Student's Health Related Fitness Profile

	Gender	N	Mean	Std. Deviation	t-value	P-value
Body Mass Index	Male	92	22.652 2	4.20475	-.306	.760
	Female	23	22.821 0	4.60856		
Body Fat Percentage	Male	92	15.663 0	5.65933	-10.120	.000**
	Female	23	22.169 0	5.02326		
Flexibility	Male	92	11.478 3	8.90546	1.335	.183
	Female	23	10.178 0	7.45340		
Upper Body	Male	92	15.358 7	6.48003	15.747	.000**
	Female	23	5.8522 0	4.09653		

Table 1. Cont

Core Body	Male	92	15.032	8.48716	8.916	.000**
	Female	23	7.7609	5.69680		
Cardio Respiratory Endurance (VO2max)	Male	92	36.282	5.44972	10.373	.000**
	Female	23	31.043	3.40919		

The table above shows the independent sample t-test based on gender, the results are there is no significance differences about Body Mass Index (BMI) (p.760) and Flexibility (p.183). While there are significance difference between male and female students on body fat percentage (p.000), Upper Body (p.000), Core Body (p.000), and Cardio Respiratory Endurance (p.000). Next below is the diagram of description analyzes of students’s helath related fitness profile.



Picture 1. Description Analyzes of Student’s Health Related Fitness Profile

The Diagram above shows the description about Student's Health Related Fitness Profile, the data shows that mean of female body percentage is higher than male, while mean of male upper body, core body and Cardio Respiratory Endurance are higher than female.

Conclusions

The main findings of the present study showed that there are significance difference on some of Health Related fitness variables, body fat percentage, Upper & Lower body strength, and cardiovascular respiratory. Males are higher than females on four item of health related fitness above, however, there are no differences on BMI and flexibility of students based on gender. Despite the differences observed, it must be noted that every student should be engaging in physical activity to enhanced fitness conform to the ACSM recommendations to maintain a healthy lifestyle, including spending at least 300 kcal per workout for a minimum of 150 minute weekly (ACSM, 2013). Consequently, every student must be participate in other physical activity program beside the internal physical education course. Subsequent research is recommended to measure skill related fitness variables or implementation of fitness programs to increase HRF.

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