

## Effectiveness of Physical Education Program on the Domains of the University Students' Attitudes toward Physical Fitness

### فاعلية برنامج التربية البدنية على مؤشرات اتجاهات طلبة الجامعة نحو اللياقة البدنية

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#### المستخلص:

**الهدف :** لتحديد فاعلية برنامج التربية البدنية على المجالات من اتجاهات طلبة الجامعة من النشاط البدني والصحة والنشاط البدني والصحة النفسية، والنشاط البدني والتغذية نحو اللياقة البدنية.

**المنهجية:** دراسة شبه تجريبية مع تطبيق نهج إعادة الاختبار للفترة من الثالث من شباط ٢٠١٣ إلى الثلاثون من حزيران ٢٠١٣. أجريت الدراسة على عينة غرضية من (٤٠) طالبا وطالبة في كلية العلوم -جامعة بغداد. وتكونت عينة الدراسة من (٢٠) ذكور و (٢٠) إناث. وتم بناء الاستبيان من جزئين رئيسيين، المعلومات الشخصية والديموغرافية واتجاهات الطلبة نحو النشاط البدني .

**النتائج:** بشكل عام، أظهرت النتائج تحسنا إيجابيا ملحوظا في اتجاهات الطلبة نحو اللياقة البدنية بعد تنفيذ برنامج التربية البدنية.

**التوصيات:** ينبغي تقديم برنامج التربية البدنية لعدد واسع النطاق من طلاب الجامعات مع مختلف مجالات الاهتمام.

#### Abstract:

**Objectives:** To determine the effectiveness of physical education program on the domains of the university students attitudes of physical activity and health, physical activity and mental health, physical activity and nutrition toward physical fitness.

**Methodology:** A quasi-experimental design is carried out throughout the present study with the application of test-retest approach through the period from February 3rd 2013 to June 30th 2013. The study is conducted on purposive sample of(40) Undergraduate Students at the College of Science University of Baghdad . The sample is Consisted of (20) males and (20) females. Questionnaire of two main parts, Personal and demographic information and students' attitudes about physical activity is constructed and employed.

**Result:** In general, the results show a significant positive improvement in students' attitudes toward physical fitness after implementation of the education program.

**Recommendation:** The physical education program should be presented to wide-range number of university students with different fields of interest.

**KeyWord:** Effectiveness, University Students, Attitudes, Physical Fitness.

### Introduction:

**P**hysical fitness is considered a measure of the ability of a person to perform certain tasks. Physical fitness is a level of health characterized by muscular strength, muscular endurance, flexibility, cardiovascular endurance and body composition. Muscular Strength is a health-related component of physical fitness that relates to the ability of the muscle to exert force. Muscular Endurance is a health-related component of physical fitness that relates to the muscle's ability to continue to perform without fatigue. Muscular endurance is specific in nature. For true assessment of muscular endurance it would be necessary to test each major muscle group of the body. Flexibility is a health-related component of physical fitness that relates to the range of motion available at a joint. Some experts specify that flexibility requires range of motion without discomfort or pain. Cardiovascular Fitness is a health-related component of physical fitness that relates to ability of the circulatory and respiratory systems to supply oxygen during sustained physical activity. Cardiovascular fitness is also referred to as cardiovascular endurance, aerobic fitness and cardiorespiratory fitness. Body Composition is a health-related component of physical fitness that relates to the relative amounts of muscle, fat, bone and other vital parts of the body<sup>(1)</sup>.

There is a growing international interest in disease prevention and the recognized link between physical activity and health. It is recognized that physical inactivity is a major health problem. Physical inactivity is an independent risk factor for Coronary heart disease<sup>(2)</sup>.

Physical fitness was identified as a major public health concern 20 years ago. Since that time, evidence of the many protective benefits of Physical fitness has continued to accumulate. The strongest evidence is in the prevention of cardiovascular disease and

reducing overall mortality in adults. Physical fitness also has preventative effects for non-insulin dependent diabetes. Physical fitness also helps to improve glucose metabolism in patients with diabetes Type II. There is also strong evidence that Physical fitness prevents cancer, including: colon, and breast cancer. Evidence is weaker, but still likely, for prostate and lung and endometrial cancers. Physical fitness helps in obesity prevention and treatment, the management of hypertension, bone development, and arthritis and osteoporosis. Furthermore, Physical fitness has a beneficial effect on psycho-social health. A review of psycho-social (defined to include psychological and social- psychological outcomes) health benefits due to physical activity (habitual physical activity, fitness training, exercise, and sport), noted that exercise had a small to moderate effect on anxiety, a moderate to large effect on depression, a consistent moderate relationship with measures of mood and self-esteem and small to moderate effects in cognitive functioning<sup>(3)</sup>.

### Methodology:

A quasi-experimental design is carried out throughout the present study with the application of test-retest approach through the period from February 3<sup>rd</sup> 2013 to June 30<sup>th</sup> 2013.

Purposive sample of (40) students, (20) male and (20) female, is selected from the College of Science, University of Baghdad for the purpose of the study.

Questionnaire format and the educational program are designed and constructed by the researcher after reviewing related articles. The study instrument is consisted of two main parts, Part one: Personal and demographic information, which includes the variables of age, gender, grade, place of Residence, The father's and mother's level of education, father's and mother's occupation, marital Status, and socioeconomic status). Part two is

students' attitudes about physical activity. An instrument was constructed through the use of (3) levels type Likert scale for the assessment of students' attitudes about physical activity. The rating and scoring scale of the instrument was (3) for I agree (2) for uncertain (1) for disagree.

Content validity is determined by a panel of experts in different specialties. Reliability of instrument is determined by the use of test-retest approach through the pilot study.

Data are collected through utilization of the study instrument and the implementation of physical education program, all participant students are exposed to pre- test ,after the implementation of program, the students are exposed to post -test 1 immediately, Six weeks later all students are exposed to post -test 2.

Data are analyzed through the use of SPSS (Statistical Process for Social Sciences) version 10.0 application Statistical analysis system and Excel (Statistical package).

### Results:

**Table 1.** Summary Statistics of an Overall Evaluation Responding of "Main Domains" for the Studied Sample at pre, post-1 and post-2 Periods

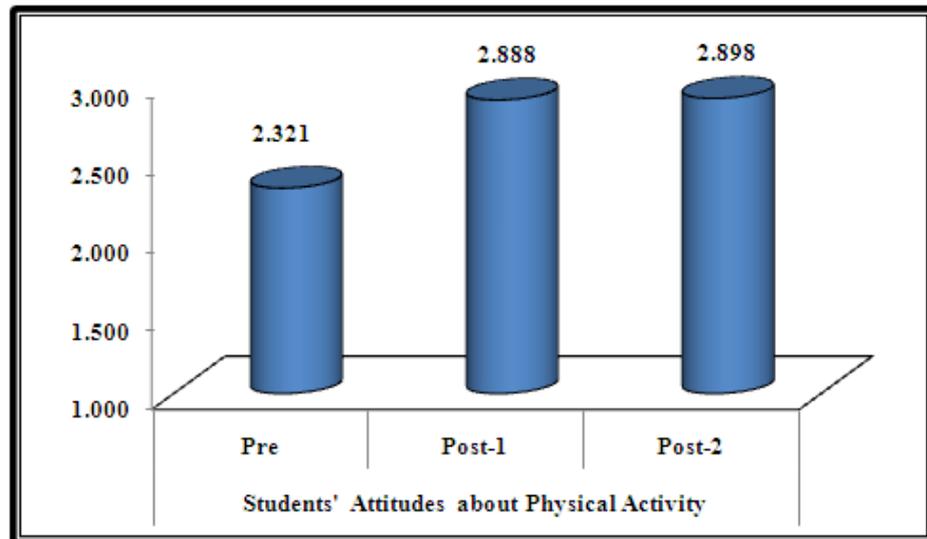
Main Domains	Periods	No.	GMS	SD	Std. E.	Min.	Max.
Physical activity and Health	Pre	40	2.198	0.21	0.03	1.71	2.54
	Post-1	40	2.916	0.08	0.01	2.67	3.00
	Post-2	40	2.931	0.08	0.01	2.75	3.00
Physical activity and Mental Health	Pre	40	2.557	0.17	0.03	2.07	2.86
	Post-1	40	2.904	0.10	0.02	2.71	3.00
	Post-2	40	2.895	0.10	0.02	2.64	3.00
Physical activity and Nutrition	Pre	40	2.207	0.16	0.03	1.86	2.57
	Post-1	40	2.829	0.09	0.01	2.64	3.00
	Post-2	40	2.884	0.10	0.02	2.64	3.00

No: Number, GMS: global mean of score, SD: standard deviation, Std. E: standard error. Min: Minimum, Max: Maximum

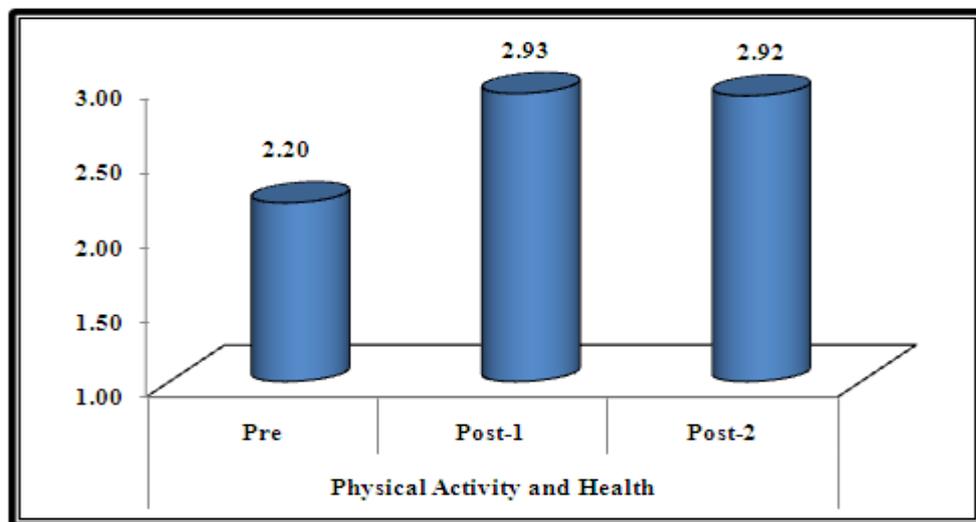
**Table 2.** Summary Statistics of "Main Domains" in Compact Form For the Study Sample at pre, post-1 and post-2 periods

Main Domains	Periods	No.	GMS	SD	Std. E.	Min.	Max.
Overall Responding	Pre	40	2.321	0.116	0.018	2.01	2.54
	Post-1	40	2.888	0.046	0.007	2.77	2.96
	Post-2	40	2.898	0.051	0.008	2.75	3.00

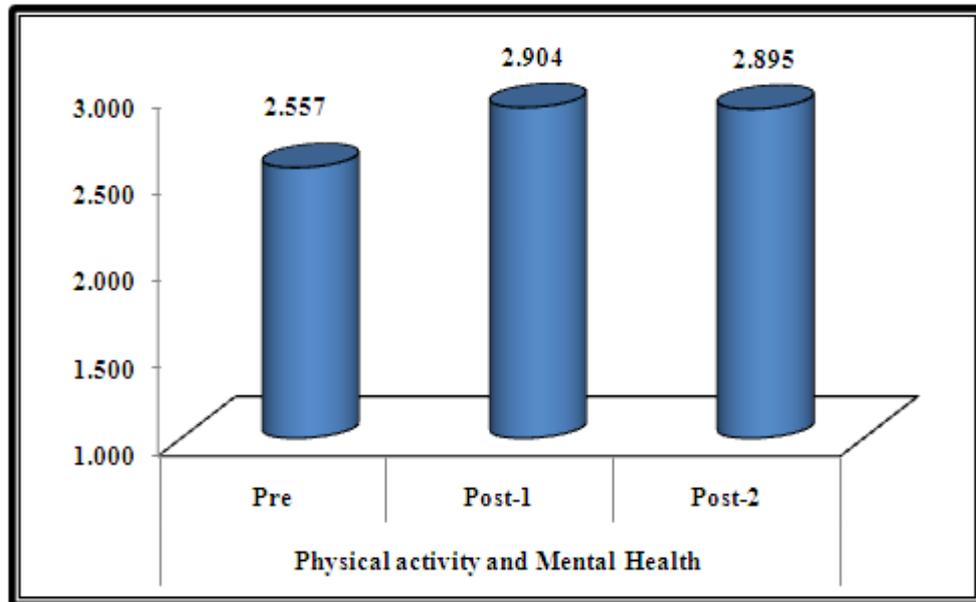
No: Number, GMS: global mean of score, SD: standard deviation, Std. E: standard error, Min: Minimum, Max: Maximum.



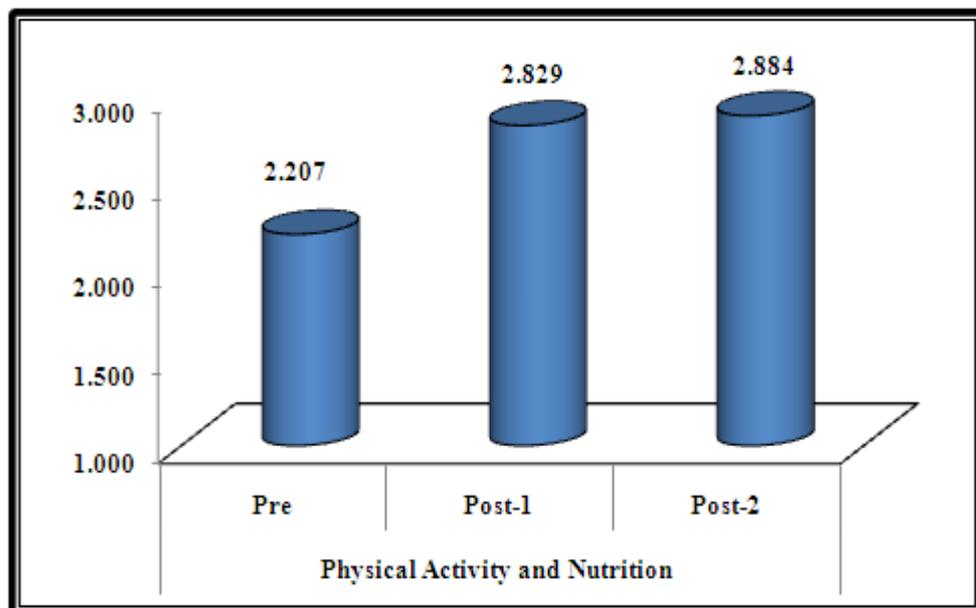
**Figure 1.** Bar Chart Plot for Grand Mean of Score of for the Studied Sample at Pre, Post-1 and Post-2 Periods



**Figure 2.** Bar Chart Plot for Grand Mean of Score of "Physical Activity and Health" for the Studied Sample at Pre, Post-1 and Post-2 Periods



**Figure 3.** Bar Chart Plot for Grand Mean of Score of "Physical activity and Mental Health" for the Studied Sample at Pre, Post-1 and Post-2 Periods



**Figure 4.** Bar Chart Plot for Grand Mean of Score of "Physical Activity and Nutrition" for the Studied Sample at Pre, Post-1 and Post-2 Periods

**Table 3.** Multiple Comparison (LSD) Among all Repeated Measurement Pairs of Main Domains for the Studied Sample at Pre, Post-1 and Post-2 Periods

Main Domains	(I) Periods	(I) Periods	Matched Paired t-test	Sig. P-value	C.S.
Physical Activity and Health	Pre	Post-1	-23.71	0.000	HS
		Post-2	-24.47	0.000	HS
	Post-1	Post-2	-2.110	0.042	S
Physical activity and Mental Health	Pre	Post-1	-14.73	0.000	HS
		Post-2	-15.77	0.000	HS
	Post-1	Post-2	1.530	0.133	NS
Physical Activity and Nutrition	Pre	Post-1	-22.07	0.000	HS
		Post-2	-23.39	0.000	HS
	Post-1	Post-2	-9.240	0.000	HS

C.S. =Comparative Significant, HS=High Significant, NS=Non-Significant, S= Significant, P=Probability

#### Discussion:

##### Part I: Physical activity and health

Most students have information about physical activity and health, but this information is not based on a scientific basis relative to items of exercise of moderate intensity physical activity on a regular basis increases bone density and reduces the fragility; Exercise activities and strengthen the muscles, including group of main muscles two or more in a week; Drop out of training leads to loss of physiological adaptation resulting from physical activity; Exercise of moderate intensity physical activity on a regular basis increases bone density and reduces the fragility.

Such information have changed after the implementation of the program and their answers were clear and correct suggesting an effective of the program (tables 1,2and 3. And figure 1 and 2).

This finding agrees with that of the study who reported the majority (97%) of the students recorded an increase in cardio respiratory endurance after participating in physical education program for eight weeks<sup>(4)</sup>.

investigate whether or not physical education can be effective in helping students to have be fitness and healthy Levels of fitness were similar to those reported in previous studies<sup>(5)</sup>.

##### Part II: Physical activity and mental health

The results indicate that students' information alike before implementation of the program, while that information after the implementation of the program students were influenced by the program and there is a clear improvement that all students have been affected by the program and to be effective in improving students' attitudes toward physical fitness during their response to the items of avoid a hot bath or steam bath after practicing physical activity; Physical activities working to stimulate the growth of neurotransmitters, and increasing the number of receptors in the brain cells (Table 1,2and 3 , figure 1 and 3).

In the study review clarified that 'for many student, school is the main environment for being physically active, through either Physical education programs or after-school activities'. That provision of Physical education and sport in schools is the only means of assuring that all student will experience physical activity and more specifically, physical activity experiences appropriate to their developmental and learning needs, is a key premise in considering many of the prospective benefits of physical education, but particularly, physical development and wellbeing<sup>(6)</sup>.

Furthermore, physical activity has been identified as enhancing health in physiological psychological and emotional terms<sup>(7)</sup>.

### Part III: Physical activity and nutrition

The results of the analysis of the data reveal that there is a difference in the students' answers to some items of the loss of an estimated half a kg to one kg per week of body weight could get most of what you lose is of fat, which keeps the muscles; Practice fast walking for an hour a man weighing 85 kg lead to the loss of 360 calories; Physical activity leads to a better result in the reduction of long-term weight when coincided with the diet, compared to only diet; eating protein breakfast increases the feeling of satiety and reduces the feeling of hunger, throughout the day. In the light of this, improvement became clear in students' answers on the items and improve their attitudes towards fitness (Table 1, 2 and 3 and figure 1 and 4).

In a study, It is stated that adopting and maintaining a healthy weight will directly affect an individual's overall health and fitness levels, therefore it is important for students be educated on the benefits and variety of ways to become more physically active<sup>(8)</sup>.

In another study, It is found that the intervention program was effective in decreasing BMI and waist circumference in student both "at risk for becoming overweight and those who were overweight" These findings are consistent with other studies that incorporate both exercise and nutrition education<sup>(9)</sup>.

### Recommendations:

With respect to the early interpretation of the study findings conclusions, the study recommends that:

1. The physical education program should be presented to wide-range number of university students with different fields of interest.
2. Future implementation of the physical education program should have focus on the

main domains of physical fitness because they have great impact on the students' attitudes.

3. Further studies can be conducted on different groups with large sample size and variety of characteristics.

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