

## The Effect of Pilates Exercises on the Body Composition and Sports Achievement Motivation in Both of Males and Females.

**Amr Roushdy Saad**

Department Sports Psychology, Faculty of sports Education - Mansoura University, Egypt.

**Hazem Ahmed Mohamed Elsayed**

Department Curriculum & Teaching Methods of sports Education, Faculty of sports Education - Damietta University, Egypt.

### Abstract

*The research aims to compare the effect of Pilates exercises on the body composition and sports achievement motivation among both males and females. The Researchers used the experimental approach by using the experimental design of two experimental groups, and by the two measurements (pre - posttest) for each group, And has reached the sample size (40 students) aged 20 years, were divided into two experimental groups (the first experimental group comprised of 20 male, and the second experimental group comprised of 20 female), Pilates exercises program applied to the two groups (male and female), Researcher based on the means and tools that work to achieve this research, Researchers based on the means and tools that work to achieve this research, the results showed that the Pilates exercises have a positive effect on weight loss and fat lose among females are larger than males, Pilates exercises also have a positive effect on achievement motivation among males larger than females, While not shown any effect of Pilates exercises on the percentage the weight of the bones, percentage the weight of the muscles and the percentage of water in the body at any of the male or female.*

### Introduction:

Pilates exercises, one of exercise modern schools, which consists of a series of exercises linking the the physical and the mental side and the patterns of breathing and lead on the rug without tools or with the tools assigned to them in accordance with the principles of scientific and basic components.

Indicate Karon Karter (2001) that the exercises Pilates lead to improvement in the work of the lungs, heart and the blood vessels with increased strength and the muscle stretching without any change in the muscle's size, as it is working to raise the mental competency and competency of mood by relaxing to tension, moderating mood and remove the pressures. (4: 15)

Mohamed Nasr al-Din & Ahmed Metwally (2000) says that the body composition is a physiological components related to health (3:16)

The scholars differed in meaning of achievement motivation, where some sees it as an acquired while others sees it as motivation instinctively.

Mohammed Allawi (2002) defines sporting achievement motivation that is readiness of player to cope with the athletic competition positions, and try to excellence through the play as much as possible of the activity and effectiveness and perseverance as an expression of the

desire to the struggle for excellence in the athletic competition positions. (2: 158)

The researchers have observed that most of the Practitioners Pilates exercises are females, and with prevalence of obesity, their diseases and their negative effects on the body composition that inhibits and frustrates and reduces the sports practice motives, So the researchers conducted this research for identify the effect of Pilates exercises on the body composition and sports achievement motivation among both males and females to attempt to spread the culture of modern exercise practice among both sexes.

### Research Aims

The research aims to compare the effect of Pilates exercises on the body composition and sports achievement motivation among both males and females.

### Research inquiries

1. What is the effect of Pilates exercises on the body composition and sports achievement motivation among males?
2. What is the effect of Pilates exercises on the body composition and sports achievement motivation among female?
3. What are the differences between the sexes (male - female) in the body composition and sports achievement motivation under the effect of The practice of Pilates exercises?

## Research procedures

### Research Methodology

The Researchers used the experimental approach

### Society and the research sample

Research Society consists of male and female aged from 19-21 years of Students of Faculty of Physical Education , The research sample was (40 students), were divided into two experimental groups (the first experimental group comprised of 20 male from Damietta University and the second experimental group comprised of 20 female from Mansoura University, The researchers apply the program of Pilates exercises on the two groups (males and females), The researchers were unable to check the statistically equalization between two groups before conducting the experiment because of the sex different which is reflected on the most physical variables among sure of its validity

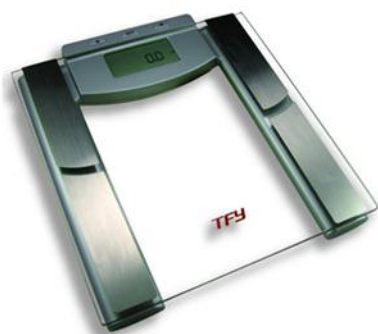
themselves, that making it impossible for equalization between the two groups, So the researchers used the style of Comparing differences in rates of improvement (pretest - posttest) between the two groups and not comparing posttest only in statistical treatment.

### Tools and means of data collection

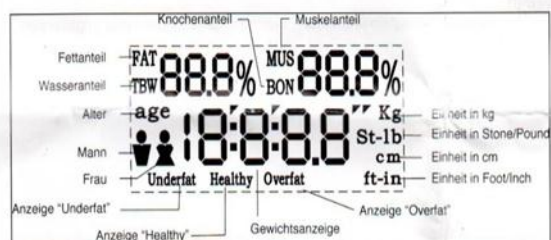
#### a) Digital Glas-Diagnosewaage Model TGF-320H:

It is a glass panel by sensors placed under the sole of the foot and has electronic screen, its inputs sex, age and height, then the laboratory should be stand on the glass and knock the soles of the feet above the sensors appears on the screen, percentage the bones, muscles, water and fat of the total weight, shown in (fig.1), This has been calibration this device with other similar devices to make

Fig.1  
Digital Glas-Diagnosewaage Model TGF-320H



#### LCD-ANZEIGE UND SYMBOLE



#### b) sports achievement motivation Measure:

It is designed by **Joe wales** (1982) and the arabization of **Mohammad Hassan Allawi** (*Annex 1*). It consists of 20 phrases, and is characterized by high rate of fortitude and honesty were verified in the current study by using the equation Cronbach's alpha, as it reached fortitude to (0.82), as has been verified the veracity of scale by susceptible on the 10 of experts in the field of psychometrics in physical education to take their opinion on the extent of matching and logical phrases of what it was intended, The results showed an agreement of arbitrators by 95%, which indicates the presence of truthfulness logical to sports achievement motivation Measure.

#### c) The proposed Pilates exercises:

The researchers conducted a survey of reference for references that dealt with Pilates exercises, as well as access to the global information network, and then was selected group of Pilates

exercises, The researchers took into account the following principles when building a Pilates program:

- should be in line with the program components to achieve the desired goal
- To suit the program content with age
- The gradient in the exercise of easy to difficult (*Annex 2*)

### Exploratory study

The researchers conducted a prospective study in the time period from 18/02/2014 to 20/02/2014 on the exploratory sample of 10 students (5 males + 5 females) aim to ensure the validity of tools and equipment and rationing measures of program of Pilates exercise .

### The basic experience of Search

The total Period for the program (13) week, by (3) units every week, and time of the training module (45) minutes and gradually increase it to 60 minutes at the end of the program (*Annex 3*) was divided daily unit as described table (1).

Table (1) Daily unit

Warm-up	Its time (10) minutes at the beginning of each daily unit and consists of (5) groups distributed on the total time of program (13) weeks, That to diversity, innovation and even individuals do not feel bored.
The main part	This includes the Pilates exercises; It is the most important parts of the daily unit because it leads to the achievement of the goal of the research, and his time, 30 minutes at the beginning of the program and graded to be up to 45 minutes at the end of the program.
Finally	its aimed at trying to calm the devices and the members of the body to its natural state and its time 5 minutes.

The researchers conducted measurements pretest for the two experimental groups (male - female) in the variables under consideration on 22/02/2014, The research were applied from 23/02/2014 to 30/05/2014 , then The researchers conducted a measurements posttest for the two experimental groups (male - female) on 31/05/2014.

**Statistical treatments:**

- The arithmetic average.
- Standard deviation.
- (T) test.
- Percentage
- Cronbach's alpha

**Result discussion**

Table (2)

Significance of differences between measurements pretest and posttest for the first experimental group (males) in the body composition variables and sports achievement motivation N=20

variables	pretest		posttest		The difference	Percentage of improvement	Correlation (r)	T	
	Mean	S.D	Mean	S.D					
physical composition	Weight (KG)	74.53	0.86	71.28	0.9	3.25	4.37%	0.94	46.38*
	Fat (Percentage of body weight)	25.43	1.18	23.18	1.29	2.25	8.42%	0.96	27.25*
	Bones (Percentage of body weight)	13.56	0.19	13.59	0.21	0.03	0.24%	0.86	1.29
	Water (Percentage of body weight)	55.21	0.89	55.2	0.89	0.01	0.02%	0.99	1.89
	Muscles (Percentage of body weight)	45.44	0.32	45.41	0.32	0.03	0.05%	0.96	1.16
sports achievement motivation (Degree)	45.48	0.32	86.31	0.27	40.83	89.79%	0.71	811.41*	

Tabulated *r* value at 0.05= 0.444

\**p* < 0.05

Tabulated *T* value at 0.05= 2.039

Table (2) shows the presence of statistically significant differences between the two measurements pre and post with a group of males in the variables (weight - fat - sports achievement motivation) for the benefit of posttest, there

are non-statistically significant differences between the two measurements pre and post with a group of males in the variables Percentage (bones - water - muscles) Percentage of body weight.

Table (3)  
Significance of differences between measurements pretest and posttest for the second experimental group (females) in the body composition variables and sports achievement motivation  
 $N=20$

variables		pretest		posttest		The difference	Percentage of improvement	Correlation (r)	T
		Mean	S.D	Mean	S.D				
physical composition	Weight (KG)	59.8	0.79	55.05	0.61	4.76	7.96%	0.97	86.64*
	Fat (Percentage of body weight)	29.04	0.88	24.57	0.86	4.47	15.39%	0.95	72.86*
	Bones (Percentage of body weight)	11.39	0.13	11.41	0.18	0.02	0.24%	0.93	1.593
	Water (Percentage of body weight)	58.62	0.25	85.61	0.26	0.01	0.02%	0.99	1.4
	Muscles (Percentage of body weight)	43.46	0.22	43.45	0.22	0.01	0.01%	0.99	1.79
sports achievement motivation (Degree)		40.72	0.17	74.17	0.11	33.65	83.04%	0.85	1579.82*

Tabulated  $r$  value at  $0.05= 0.444$  \* $p < 0.05$

Tabulated  $T$  value at  $0.05= 2.039$

Table (3) shows the presence of statistically significant differences between the two measurements pre and post with a group of females in the variables (weight - fat - sports achievement motivation) for the benefit of posttest, there are non-statistically significant differences between the two measurements pre and post with a group of females in the variables Percentage (bones - water - muscles) Percentage of body weight.

The researchers attributes these differences and rates of change at both males and females, that shown at table (2,3) to practice Pilates exercises, and what its involves situations and new movements reducing the severity of boredom that in the traditional exercise, prompting the males and females to do a lot of effort in practice and that reflected positively to lose weight and lose fat percentage,

Pilates exercises not confined their impact on the physical side only, but goes beyond to the psychological side also, This explains the improvement in sports achievement motivation among both males and females, This is agree with **Eyman Askar (2011)** and **Michael King (2001)** who indicates that the Pilates exercises works to maintain the health and consistency of the body through the redistribution of body weight, It also works to increase the motivation and the development of mental processes as it works to develop the relationship between the body and mind through the freedom from tension and reduce of stress and pressures of life and renewal of physical and mental energy. Which answers the first and second questions for knowledge of the effect of Pilates exercise on the body composition and achievement motivation among males and females. (1) (5)

Table (4)  
Significance of differences difference measurements (pretest - posttest) for the experimental groups (male - female) in the body composition Variables and sports achievement motivation  
 $N1=N2=20$

variables		males		females		Differences improvement	T
		Mean of improvement	S.D of improvement	Mean of improvement	S.D of improvement		
physical composition	Weight (KG)	3.26	0.31	4.76	0.25	1.5	16.82*
	Fat (Percentage of body weight)	2.25	0.37	4.47	0.27	2.22	21.53*
	Bones (Percentage of body weight)	0.03	0.01	0.02	0.01	0.01	0.181
	Water (Percentage of body weight)	0.01	0	0.01	0	0	0.55
	Muscles (Percentage of body weight)	0.02	0.01	0.01	0	0.01	0.89
sports achievement motivation (Degree)		40.83	0.23	33.65	0.1	7.19	131.5*

Tabulated  $T$  value at  $0.05= 2.039$  \* $p < 0.05$

Table (4) shows the presence of statistically significant differences in the mean of improvement between the two

experimental groups (male - female) in the variables (weight - the proportion of fat) for the benefit of females,

There are also statistically significant differences in the mean of improvement between the two experimental groups (male - female) in variables (sports achievement motivation) for the benefit of males, This means that the Pilates exercises leads to lose weight and lose fat percentage among females more than males, also leads to the Pilates exercises to increase achievement motivation among males more than females, While it's not any effect of Pilates exercises on the Percentage (bones - water - muscles) of body weight among any of the male or female, *Which answers the third question for knowledge of the differences between the sexes (male - female) in the body composition and achievement motivation under the effect of the practice of Pilates exercises.*

### Conclusions:

1. Practice Pilates exercises lead to lose weight and fat and increase sports achievement motivation among males.
2. Practice Pilates exercises lead to lose weight and fat and increase sports achievement motivation among females.
3. Females who practices Pilates exercises excelled for males who practices for Pilates exercises in lose weight and lose fat, while males who practices Pilates exercises excelled for female in increase of sports achievement motivation.

### Recommendations

- 1- Using Pilates exercises to lose weight to lose fat.
- 2- Using Pilates exercises to increase the sports achievement motivation
- 3- Conducting more of future studies on other samples using Pilates exercises.

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