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The Efficacy of Physical and Sports Activities in the Adjustment of the Delinquent Behavioral Disorders

Akkouche Kamel

Doctor in Sciences and Techniques of Physical Activities and Sports, Sports and Physical Education Institute -Hassiba 'Ben Bou Ali University- Chlef/Algeria

ABSTRACT

The aim of this study to prove the efficacy of physical activity and sports in the adjustment of some forms of Behavioral Disorder adolescents juveniles delinquents, and that is based on the measurement of the psychological dimensions and sociological of the phenomenon in order to attempt to remedy, the delinquent individual offender social systems, finds social rules and laws obstacles and barriers in the way of their own culture and which become part of the fabric of personal has pillar in their interaction; based on the practicalities of the behavioral disorder and delinquency, spiritual, mental, psychological and even physical. Therefore had us worthwhile to find the most effective way of achieving integrated growth and balanced the personality of the offender, perhaps physical activities considered to be the most effective means of seeking some of us to achieve this goal, Gerard poussin says: (as long as the physical education receive great attention from delinquents, why not harnessed for socially hire nature rehabilitative treatment as the center while promoting sports under the leadership of the aware, is the center of the Reformist Guidebook to assess the delinquents and survivor assistance commensurate and standards and values of the society.(Gérard poussin, 1999, La fonction parentale P.266).

Keywords: Behavioral disorders, delinquency, physical activities and sports

PROBLEM

The modern vision of physical activities and sports make it a reflection of the areas of development in human life and to unite and takes into account the kinesthetic areas, cognitive, emotional and social as well as the total number of goals by the intellectuals of physical education represent the broad framework of the ambition of aspirations and aspirations and the values which physical activities and sports to achieve through the concept of inclusive education, if the theoretical

heritage in the practice of physical activities has provided us with many lists of sales effective pedagogical educational center in many countries of the world, east and west and with varying cultural trends and ideologies of each society basic rules and established criteria, but they are all in the borders of the settlement of the behavioral areas of the three main above all aims to achieve the foundations and values Embraced by the community itself, but what the output is an anomaly deviation and non-compliance with established laws and instructions and social systems associated with which tempted per capita social delinquency; Teen in permanent conflict with the values that should be dealt with and respected as a way of life, where Davision Gerald: (Sport informs you dealing and life amid the crowds, accept the values of others and respect, tolerance toward negative things in life and deal with boredom and competition for something of value, and

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Address for correspondence:

Akkouche Kamel, Doctor in Sciences and Techniques of Physical Activities and Sports, Sports and Physical Education Institute, Hassiba 'Ben Bou Ali University, Chlef /Algeria. E-mail: akkouche.kamel@yahoo.fr

consequently accept hierarchical classification systems in the laws of the community. (Davidson Gerald 2001 - Abnormal Psychology p:245).

These included the idea of juvenile delinquents Troubled Teen Behavior, who became doubt a nuisance for each of the surrounding them or to interact and deals with them, where the behavioral patterns, to a large extent, sustained as unacceptable and inappropriate, some tend to isolation introversion and withdrawal but mostly tend to the aggressive behavior and sabotage and provoke others, causing them to fall in the trap of delinquency, class is troubled delinquents behavior it more categories of special education cause confusion between researchers and efficacy that behavioral disorders area open deviations end rather than a specific category beginning” (Alonso, Anne & Swoller, Hillel (1993). Group Therapy In Clinical Practice, American Psychiatric p. 449).

Individuals live their lives, in the exercise of the patterns of multiple and diverse of behavior, faced a familiar attitude has behavioral that could facilitate the confronted, and faced a new attitude of the behavior and amended it, in both cases thinks that it behave according to criteria and the values set for itself (Bandura, ASocial learning through imitation, Univ.of Nebraska, P.211), it interacts with others to build his opinion and governance of the apparent behavior, if interpreted this behavior, interpreted on the basis of what it is from values gained from the special expertise, how many of us tries to investigate the causes of anger when an individual, or the isolation of the second social relations, and the love of domination at the third? How many of us can explain the misunderstanding which is between him and the other in the light of the psychological configuration which affect the conduct or behavior of others ?occupies all members of the Category field over the straight line between the parties to the mental health and psychological illness, then that the difficulties facing the access to a precise definition of these disturbances raises serious problems when the report of the incidence of these cases when determining the features when the assessment, and when the search for methods to develop treatment methods (Davidson, Gerald 2001- Abnormal Psychology, (8.ed). p 123).

In addition, the lack of agreement on delinquent’s individuals including:

Distraught emotive and behavioral decline or bad social adjustment or deviants social workers or impaired

offenders, however the most popular of these addresses are the distraught offenders behavior as the social delinquency is the product of behavioral turmoil, so criticism of Albert several theoretical models to explain the behavior disorders very antithesis of these models orientations different theory different sciences concerning the interpretation of these disturbances and different these models are apparent in the importance that confers on to know the disruption caused psychological quite dynamic focused on psychological causal link for example the trend biodiversity focus on physiological causal link or membership, the prevailing belief was at the beginning of the twentieth century, sees that the turmoil of satisfactory conduct Kay my disease or treatment doctors responsibility alone, but that the “Freud «then addressed this belief, introducing the idea of the possibility of interpretation Behavioral Disorder delinquent on the basis of the subliminal phenomena in self-defense, then came the behavioral school modern interpretations that Behavioral Disorder is not theoretical reasons for potential as Freud, but emerge from the positions and Acquired behavior can be learned, accordingly, in the context of the modern concept of the educational centers on the alleviation and reduction of behavioral disorders in the category of juvenile delinquents and the attempt of settling their behavior and social integration was the allocation of special centers for those in order to submit to total systems and consistent with the ideals, customs and traditions and laws and thus building together a balanced personality free from behavioral disorders and psychological conflicts but:

- Does the adolescents offenders confused behaviors do not know the proper behavior?
- Or they know and chose not to go to the circumstances of what? Does this disappear troubled behavior and irregular with the passage of time with the application of educational methods and remedial action as a matter of physical activity and sports?

Finally in general:

What is the extent of the efficacy of the Physical Education and Sports to alleviate the behavioral disorders among adolescent’s delinquents?

Hypothesis

- The physical activity and sport an important treatment in the process of evaluating the behavioral disorders to delinquents.
- The actual practice of different aspects of physical activity contributes positively to the reduction

of social delinquency arising from a breach of moral systems and social laws

- Physical activity might contribute to describing phenomena devious behavioral and its dimensions which leads to the possibility of providing services appropriate remedial action to create a balanced growth of the human personality and the decency of the adolescent.

THE GOALS AND THE IMPORTANCE OF THE SEARCH

To confirm the new concept of physical activity and sport in that they reflect the social system only composite culturally and remedial operations inherent in physical education and sports education is one of the components of the system of the comprehensive social and considering them part of the fabric of society and the development of an individual's awareness of the Offender itself and its potential real effective generating a positive trend toward the future and the development of coordinated personal values of the juvenile offender and awareness of social controls: freedom, science, work, belonging, moderation of justice, respect for the law and the time, the independence of the system..., To create growth integrated and balanced and clarify the relationship between the actual practice of physical activity and building exemplar adolescent.

The importance of physical education in terms of the effective role to play in the organization of a juvenile offender in all stages of the psychological and physical and moral development of mental skills and concepts necessary social efficiency.

- To give more important aspect of physical education and sports in social institutions.
- The development of social behavior patterns is acceptable either in public life or the process.
- Finally, the delinquent assistance in the understanding and application of the right.

All this is an attempt to put the starting point of the first seed for other research studies of the phenomenon (delinquency).

RESEARCH METHODOLOGY AND PROCEDURES

The Research Sample

So the sample is intentional, it has identified and counted in age, gender, where a group of delinquent

teens behaviorally disturbed, delinquent number 45, from the center of the Delinquents have been chosen because the sample field research primarily aims to achieve theoretical data.

Search Tools

The adaptive behavior test

Definition

Is a measure of the adaptive behavior established by Nihira and Leyland of (NIHIRA LYLAND) (1971) and one of the most important current measures which established specifically for special groups in educational institutions and the re-education and rehabilitation and extended its use to the categories of normal groups, and has evolved statistical characteristics and totally acceptable, especially in the area of detecting behavioral deviations and forecast to be remedied. (Farouk Mohammad Sadiq. The guide to the measure of adaptive behavior p. 1).

The test parts: (fields)

The measure consists of 44 questions divided on 14 partially area, contained in parts or major areas, each question has a certain number of questions each question has two possibilities:

The personality test

Definition

This test comes mainly from personal test and tendencies "Erich board acres" and "Walter Tuman" test situation to measure the multiple aspects of the human personality and study of individuals tendencies and aims at this test to study the delinquents.

The test parts

1. The trend toward the community - the trend against the community.
2. Introversion.
3. The depression.
4. Paranoia.

Has been an applied test paragraph (440)paragraph, all on a separate card for the four parts, and then test individually, cards are distributed on two things (Table 1).

YES and NO:

Yes, in the case of match his vision with the gateway before/calculated one degree.

No, in case of the lack of conformity of his vision with the gateway before/counted not any degree.

Table 1: Model of the measure

| Number | Area | N questions |
|--------|--|-------------|
| 01 | The destructive behavior and violent | 05 |
| 02 | Conduct anti-society | 06 |
| 03 | The behavior of rebellion and disobedience | 06 |
| 04 | The behavior of not credible | 02 |
| 05 | The behavior of the WitSSShdrawal | 03 |
| 06 | Stereotypical conduct | 02 |
| 07 | Social habits unacceptable and aberrant | 01 |
| 08 | Voice habits unacceptable | 01 |
| 09 | The habits of unacceptable awkward | 04 |
| 10 | The behavior of the harms the restraint | 01 |
| 11 | The tendency of the movement in excess | 01 |
| 12 | The abnormal behavior of sexual exploitation | 04 |
| 13 | Psychological disorders and excitements | 07 |
| 14 | The use of drugs | 01 |

Analytical Method used

the “T” test from more significant tests in psychological research, education and sport, aims to know whether the differences between real averages were attributable to certain variables or it is attributable to the chance alone, “T” test are used the proportion of the research (student) to measure the significance of differences associated averages and associated with the samples equal and unequal uses abound small samples that size less than 30 and no more than 60 individuals.

The general application is as follows:

M1: Medium first application.

M2: Medium second application.

S1: The standard deviation of the first application.

S2: The standard deviation of the second application.

N: The number of members of the sample.

$$t = \frac{|m1 - m2|}{\sqrt{\frac{s_1^2 + s_2^2}{n - 1}}}$$

RESULTS

- The physical activity and sport an important treatment in the process of evaluating the behavioral disorders to delinquents

The Results of Adaptive Behavior Tst

The results are shown in Table 2.

The Adaptive Behavior Result Discussion

Through the results obtained from the account of the significance of the differences in the Applications, the first three, central final, measured by the adaptive behavior and private sectors and the total area, which includes all areas special partial scale through translation charts and then the expense of the statistical significance of each differences resulting we found that the nature of the inverse relationship between crude class behavioral disturbances and the periods of the application of the program that is evident through the proportion of the first teams we refer to the difference between initial class behavioral turmoil which were estimated at about 9.84%, beyond a gradual decline to give the total class final behavioral disturbances which are estimated at low 13.95%, thus achieving the standard rate estimated at about 25.92% between first-class and final after the implementation of the program of the effectiveness of physical and sporting activities through educational Treatment in alleviating the behavioral disorders overall fields on the basis of the direction of behavior in recovery symptoms and extinguishing acts sick skyline.

The Results of the Personality Test

The results are shown in Table 3.

The Personality Test Result Discussion

- Through the results obtained from the results of the significance of the differentials applications first, second and third for the personality test, first conclusion is relational database relationship between the stages of the application as well as between the corresponding percentages of grade crude as the test grades registered in the first measurement estimated average equivalent to 389,51 college degree or 88,52 % of total grades for this test during the first measurement.
- During the second application of the implementation of the program started a Behavioral Disorder special personality test to average 224,81 degrees by 51,09 %, central teams ability to: 37,43 % results until 134,23 degree as the average total results of each test measures during the third application of any, estimated at 30.50 % to record the proportion of final difference between the application 1 and 3 around 51,09 percent record low compared with

Table 2: The results of adaptive behavior test

| Area | Adaptive behavior | | |
|------|-------------------|-----|----|
| | T1 | T2 | T3 |
| 01 | 112 | 101 | 80 |
| 02 | 110 | 97 | 75 |
| 03 | 112 | 98 | 74 |
| 04 | 106 | 92 | 72 |
| 05 | 103 | 91 | 67 |
| 06 | 105 | 91 | 69 |
| 07 | 105 | 90 | 68 |
| 08 | 112 | 98 | 77 |
| 09 | 104 | 95 | 72 |
| 10 | 107 | 94 | 72 |
| 11 | 100 | 86 | 65 |
| 12 | 94 | 80 | 60 |
| 13 | 104 | 91 | 69 |
| 14 | 110 | 101 | 77 |

Table 3: The results of the personality test

| N | Personal normality | | |
|----|--------------------|-----|-----|
| | T1 | T2 | T3 |
| 01 | 401 | 201 | 150 |
| 02 | 421 | 225 | 140 |
| 03 | 405 | 189 | 171 |
| 04 | 418 | 208 | 157 |
| 05 | 399 | 260 | 142 |
| 06 | 356 | 187 | 102 |
| 07 | 423 | 196 | 125 |
| 08 | 389 | 206 | 134 |
| 09 | 378 | 213 | 102 |
| 10 | 339 | 245 | 152 |
| 11 | 408 | 200 | 145 |
| 12 | 409 | 215 | 180 |
| 13 | 369 | 289 | 105 |
| 14 | 387 | 245 | 107 |
| 15 | 348 | 247 | 154 |
| 16 | 396 | 250 | 174 |
| 17 | 378 | 197 | 145 |
| 18 | 391 | 190 | 124 |
| 19 | 408 | 231 | 126 |
| 20 | 405 | 248 | 135 |

Table 3: (Continued)

| N | Personal normality | | |
|----|--------------------|-----|-----|
| | T1 | T2 | T3 |
| 21 | 406 | 275 | 139 |
| 22 | 425 | 210 | 142 |
| 23 | 432 | 256 | 108 |
| 24 | 408 | 249 | 114 |
| 25 | 401 | 241 | 151 |
| 26 | 368 | 220 | 117 |
| 27 | 397 | 205 | 119 |
| 28 | 400 | 207 | 148 |
| 29 | 394 | 198 | 102 |
| 30 | 356 | 175 | 100 |
| 31 | 348 | 189 | 171 |
| 32 | 398 | 205 | 102 |
| 33 | 357 | 301 | 107 |
| 34 | 378 | 321 | 154 |
| 35 | 371 | 245 | 174 |
| 36 | 405 | 249 | 145 |
| 37 | 409 | 271 | 124 |
| 38 | 425 | 201 | 126 |
| 39 | 421 | 196 | 135 |
| 40 | 359 | 205 | 139 |
| 41 | 389 | 197 | 142 |
| 42 | 369 | 185 | 108 |
| 43 | 358 | 205 | 114 |
| 44 | 369 | 236 | 150 |
| 45 | 357 | 237 | 140 |

the duration of the three applications for the implementation of the program.

THE GENERAL CONCLUSION OF THE STUDY

Through the findings of this study and that we tried to prove the effectiveness of physical activity and sports as a method of remedial action in the process of evaluating the behavioral disorders of the category of adolescents juvenile delinquents at the direction of behavior that is based on the amendment of the conduct was the flag that includes the systematic application of methods

(Contd...)

which emerged from the behavioral laws in order to fundamental change and useful in behavior academic and social and psychological of persons, procedural is known as the process of strengthening the desired behavior by, on the one hand, and weaken or removing conduct unwanted on the other hand and is based on the idea that the conduct of the individual is not accidental but is a problem in and of itself, and should be dealt with and understanding of the analysis of the study and the best measures to deal with him, according to the times and places, the dependence of physical activity and sports positive to extinguish the negative exciting which led the individual to fall in the trap of delinquency

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Psychological Stress and its Relation to Motor Satisfaction for Students of Faculty of Physical Education

Mohammed Mahdi Mohammed¹, Musab Mohammed Abdullah²,
Dalshad Mohammed Abdulrahman²

¹The Directorate of Sports Activities, Nowruz University, Iraq, ²Department of National Education and Sports, College of Basic Education, Zakho University, Iraq

ABSTRACT

This study aims to determine (the degree of psychological stress and motor satisfaction among students of the Faculty of Physical Education at Duhok University, psychological stress and its relation to motor satisfaction for students of the Faculty of Physical Education at Duhok University). The researchers used the descriptive method by correlative survey. The study sample included male students (340 students), and the researchers used psychological stress scale prepared by Al-Bayati, 2004 and amended by the Thanon, and Sultan (2010), and motor satisfaction scale prepared by Al Saffah, 2012, as amended by Marai 2016. In addition, the researchers used arithmetic mean, standard deviation, percentage, assumed mean, simple correlation coefficient and Alpha Cronbach reliability coefficient. The researchers concluded that (students of the Faculty of Physical Education at Dohuk University have a good level of motor satisfaction, students of the Faculty of Physical Education at Dohuk University have an average level of psychological stress, and there is a correlation between psychological stress and motor satisfaction for students of Faculty of Physical Education at Dohuk University).

Keywords: Duhok University, motor satisfaction, psychological stress, physical

INTRODUCTION AND SIGNIFICANCE OF THE STUDY

There is no doubt that the significant progress in the field of sports in recent years did not come from a vacuum, but relied on following the scientific basics that are the result of numerous experiments and applying the factors that contribute to raising the levels of sports. This requires following those factors affecting

the level of performance so that an athlete, whether a player or a student, manages to keep abreast of progress and achieve higher levels. Tests and measurements in the sports and academic fields are of great importance as they give those in charge of this area a proof of the level reached by their athletes in order to address the problems that stand in the way of their progress so that they earn good results and be distinct.

Psychological stress is one of the psychological forms and aspects that hinder individuals and students at a time filled daily life with a large number of complexities of various kinds and sports ones, where individuals in educational positions face a number of situations that need immediate or delayed solutions to reach the best achievement as inability to meet those educational situations does not only make them not feeling all

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Address for correspondence:

Mohammed Mahdi Mohammed, The Directorate of Sports Activities, Nowruz University, Iraq.
E-mail: Dr.mohammedombarak@yahoo.com

upset or discomfort, but it also reaches a large degree of emotions that affect behaviors and outcomes of the educational material.

Motor satisfaction has a significant place in sports psychology because of its great importance in helping to determine the type of expected behavior in future situations, as it helps in determining the orientation and motivation of learners to practice various sport activities or special activities and not others. Moreover, the feeling of satisfaction about performance level represents one of the dimensions tackled sports psychologists as success in performance increases the level of ambition of the individual and makes him feel self-satisfied, “one of the most important factors that contribute to reach sporting achievement is feeling satisfied towards the level of performance” (Al Hayani, 1998.33).

The Faculty of Physical Education is a faculty which is characterized by its difficult skill performance, which depends on students’ individual and collective efforts, as well as many psychological traits such as self-confidence, strong will and speed of decision-making and others, which contribute to making their performance skills characterized by precision, flexibility and consistency for most of the time. In addition, the concept of psychological stress affects the motor satisfaction of the individual learner as it brings self-confidence, which in turn raises vitality, enthusiasm and enjoyment that could make the individual learner’s skills characterized by flexibility, accuracy and consistency in performance, making him/her as a lover of activities performed and thus desires and aspirations come true. Hence the significance of the current study lies in the lack of physical education teachers’ dependence on promoting the concept of psychological stress and connecting it to motor satisfaction, so the researchers decided to study the concept of psychological stress and its relation to motor satisfaction for students of the Faculty of Physical Education at Dohuk University.

This study will contribute to identify some psychological aspects that, in the event of interest in them, will help in reaching an advanced level of performance of students during lectures. In addition, one of the important aspects that must be considered in teaching and must be taken into consideration is the psychological aspect which is one of the important and influential aspects in having good results and get to the achievement, as motor dissatisfaction of students affects their ability in educational situations, especially in difficult ones.

Problem of the Study

As the researchers are connected to Faculty of Physical Education being lecturers there, they noticed that some students behave in a manner contrary to motor satisfaction of educational lessons in some subjects, thus the problem of the study lies in answering the following questions:

1. What is the degree of psychological stress and motor satisfaction for students of the Faculty of Physical Education?
2. Is there a relation between psychological stress and motor satisfaction for students of the Faculty of Physical Education?

Objectives of the Study

The study aims to define:

1. The degree of psychological stress and motor satisfaction for students of the Faculty of Physical Education, Dohuk University.
2. The relation between psychological stress and motor satisfaction for students of the Faculty of Physical Education, Dohuk University.

Hypothesis of the Study

- There is no significant relation between psychological stress and motor satisfaction for students of the Faculty of Physical Education, Dohuk University.

Procedures of the Study

Methodology

The researchers used the descriptive method by correlative survey as it is appropriate to the nature of the study.

Population & Sample of the Study

The population of the current study consists of students of the Faculty of Physical Education, Dohuk University for the academic year (2015 – 2016) who are 468 male and female students. The study sample included male students only (368) students after eliminating (28) students for non-compliance of selection terms to make the final sample of the study 340 students.

Tools of the Study

Psychological stress scale

The researchers used psychological stress scale prepared by Al-Bayati, 2004 and amended by the Thanon, and Sultan (2010) consisting of 31 phrases with

answers grading as follows; (5= always, 4= often, 3= sometimes, 2= rarely and 1= never).

Motor satisfaction scale

The researchers used motor satisfaction scale prepared by Al Saffah, 2012, as amended by Marai 2016 consisting of 30 phrases. Upon correcting these phrases, they will be graded as follows; (5= applies very much, 4= applies much, 3= moderately applies, 2= applies a little and 1= does not apply).

Scientific basics of psychological stress and motor satisfaction scales

Face validity

The researchers depended on arbitrators' validity to ensure validity of scales through their presentation to experts in (sport psychology, measurement and evaluation) to see their opinions about representation of scales for the characteristic to be measured as agreement percentage reached (100%) on scales.

Reliability

The researchers extracted scales' reliability through Alpha Cronbach'S coefficient. Its value for psychological stress scale was (0.81), whereas for motor satisfaction was (0.88) and this is a relatively high coefficient and a good indicator on paragraphs' consistency and homogeneity.

Final application of scales

The researchers applied the two scales on the sample of the study in the period from 16 to 20 April 2016.

Statistical Methods

The researchers used SPSS suit to obtain:

- Arithmetic mean, standard deviation, percentage, assumed mean, simple correlation coefficient and Alpha Cronbach reliability coefficient.

DISCUSSION OF FINDINGS

Results of the First Objective

The degree of psychological stress and motor satisfaction for students of the Faculty of Physical Education, Dohuk University was measured as the researchers depended on total degree of both scales as shown in Table 1.

Through Table 1, it is shown that the arithmetic mean of psychological stress scale reached (78.34), a standard

Table 1: Arithmetic means and standard deviations SDs of psychological stress and motor satisfaction scales

| Statistic treatment Scales | Arithmetic mean | Standard deviation SD | Assumed mean |
|----------------------------|-----------------|-----------------------|--------------|
| Psychological stress | 78.34 | 9.34 | 93 |
| Motor satisfaction | 97.80 | 13.14 | 90 |

deviation of (9.34) and assumed mean (93), while for motor satisfaction scale, the arithmetic mean reached (97.80), standard deviation was (13.14) and assumed mean was (90).

The researchers also found that stress is a phenomenon connected to humans since their existence, but it became a feature of this age which is characterized by rapid change, scientific and technological progress. It is also affected by concepts of globalization in all its aspects including sports for individuals and especially for students of the Faculty of Physical Education in Dohuk University for its impact in terms of the nature of the events and various faculty activities as well as individual differences among students towards these activities and various events. This is confirmed by (Dahdouh, 2010) saying: "psychological stress is one of the most important disorders faced by the individual in the present age full of complexities, problems and everyday life's requirements which need to be faced with immediate solutions" (Dahdouh, 2010.61).

As for motor satisfaction, the researchers attributed it to the diversity of activities, events and academic interests in the Faculty of Physical Education at various stages helped feel motor satisfaction. In addition, the privacy of the Faculty of Physical Education makes it one of the private faculties that have admission in accordance with desire, motivation and on the basis of their related tests. This is what distinguishes students of this faculty from other faculties, which was confirmed by (Hmukah, 2016) as desire, joy and gratitude drive the individual practitioner athlete to feel satisfied about training, its importance, and the reflection of its benefits it as well as points of strengths, hope and love "(Hmukah, 2016:155).

Results of Second Objective

The relation of psychological stress and motor satisfaction for students of the Faculty of Physical Education, Dohuk University was measured as the

Table 2: Arithmetic means, standard deviations sds, calculated and tabulated r value between psychological stress and motor satisfaction

| Statistic treatment scales | Arithmetic mean | Standard deviation SD | Calculated (R) value | Tabulated (R) value | Significance |
|----------------------------|-----------------|-----------------------|----------------------|---------------------|--------------|
| Psychological stress | 78.34 | 9.34 | 0.194 | 0.138 | Significant |
| Motor satisfaction | 97.80 | 13.14 | | | |

researchers depended on total degree of both scales as shown in Table 2.

Through Table 2, it is shown that the arithmetic mean of psychological stress scale reached (78.34), a standard deviation of (9.34) and assumed mean (93), while for motor satisfaction scale, the arithmetic mean reached (97.80), standard deviation was (13.14) and calculated (R) Value (0.194), which is bigger than the tabulated one (0.138). This indicates that there is a significant correlation between the two variables and the researchers attributed the reason to the fact that there is a certain amount of stress required to perform the work, whether this was a muscle tension or psychological one in all institutions, including sport ones, where there is a certain percentage of the stress may be required to perform a specific job and that this percentage may differ from the proportions necessary for other work to reach the best performance or achievement as confirmed by (Al-Bayati, 2004), that “we need a reasonable amount of stress to stir our activity and motivation to do our duties and achieve the targets we aspire as the more stress over the level, its negative impact or damage on the individual begins” (Al-Bayati, 2004:26).

CONCLUSIONS

1. Students of the Faculty of Physical Education at Dohuk University have a good level of motor satisfaction.
2. Students of the Faculty of Physical Education

at Dohuk University have an average level of psychological stress.

3. There is a correlation between psychological stress and motor satisfaction for students of Faculty of Physical Education at Dohuk University.

RECOMMENDATIONS

1. To focus on supplying students of the faculties and departments of physical education with information to increase their motor satisfaction and reduces psychological stress.
2. The need for professors at faculties physical education to be familiar with the task of awareness of motor satisfaction and psychological stress.

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The Change Curve in Body Composition of Female Different Classes in Palestine School

Waleed Mohammad Shaheen¹, Reem Hammad Ozreil²

¹Department of Physical Education, Faculty of Arts, Birzeit University, Ramallah, Palestine, ²Unit of Physical Education, Birzeit University, Ramallah, Palestine

ABSTRACT

The purpose of this study was to investigate the change in body composition of female different classes in Palestinian school through determine (HT) height, weight (WT), fat, lean body weight (LBW), the sample consist of all female different classes (180) students. We use anthropometric measurement to determine (Wt, kg), (Ht,m), muscle, fat, $BMI=wt/(ht)^2m$. The researcher began to process the data through statistical packages for social sciences (SPSS) and achieved to the result through the research hypothesis. The result showed that the average of fat mass according to the places measurement (13.4, 15.7, 24.8, 20.9, 14.9)mm, the average of weight, tall, weight of muscle and BMI in certain group (24.64, 1.44, 43, 19.5) and this study showed there were appositve relative between the variables.

Keywords: Change curve, body composition, palestine school

INTRODUCTION

Anthropometric measurements have special position, especially in the field of sports, as where they provide knowledge of potential growth characteristics appearing in children in every stage of their age, with a note that there is a disparity in growth among children in the same stage, and so this contributes to the sport selection process. In all games, height and body mass play a key role in the performance of players, for example, arm length and height when the player has a decisive advantage and uncertain of success in some games (Thirumagal. A, 2013). In addition, (Haree, 1982) refers that the height is one of the basic requirements for success in a lot of sports and of basic

measurements at sport selection as identifying the body mass and height at different ages is one of the indicators that reflect the growth condition of individuals. Kahribt (1997) also refers to knowledge of stages of growth in children and physical changes help the coach to know the beginning of training for the open proposed activity.

Preservation of the child's body during early stages of growth is an important factor to protect him from obesity, due to the increase from birth until the age of 16 years old to be in the number of fat cells and their size, and then the increase becomes in the volume of fats. Moreover, (De Lorenzo, et al, 1999) refer that the increase is usually quick, especially in adolescence where fats percentage increases up to (15 – 20%). Bushirk, 1986) also refers to the importance of body composition to assist in classification of individuals and the study of individual differences between the sexes. He described growth, maturity, adulthood and old age in terms of being a natural or unnatural, as the necessary fat percentage for females is not less than 8% and the good one for sport performance is (12-22%), while the healthy accepted fat content is (18-30%), but

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Address for correspondence:

Waleed Mohammad Shaheen, Department of Physical Education, Faculty of Arts, Birzeit University, Ramallah, Palestine.
E-mail: waleed_shaheen2003@yahoo.com

the unacceptable increase is the one more than (30%), with people who are described as fat (Wilmore, 1986).

In terms of Body Mass Index (BMI), it is a well-known method to classify individuals. It is defined as body mass in kilograms (kg) divided by square height in meters (m) (Ravussin & Swinburn, 1992). Global rating, as indicated by (Anon, 1998) about classification of individuals is as follows: from 18.5 kg/m² is less than normal and weight is Ranked "Slim", from 18.5 to 24.9 kg/m² is Ranked "normal", 25 - 29.9 kg/m² is ranked "fact" and from 0.30 kg/m² or more longer is ranked "obese". It should be noted in this regard that these rating standards differ from one society to another due to nutrition, climate, nature of the work and genetics. In addition, knowledge of BMI is crucial from medical point of view in terms of the study of growth in children, the relationship of obesity with the activity exercised by the individual and the length of time for that activity (Maria, et al, 2006), besides its importance in guiding the child nutrition (Colic & Satalic, 2002).

Regarding percentage of fats and muscle mass, (Behnke) noted that there are two major components of body composition (body position) depending on the formation of the body: fats (Fat) and muscles (Lean body weight) (LBW) by (Wilmore & Costill, 1994). Moreover, (Brooks & Fahey, 1984) added that (LBW) refers to skeleton, water, muscles, connective tissues and organs. Since muscles are the main component, it is used to denote them. It is worth mentioning that the majority of studies used the term (FFM) (Fat Free Mass) instead of (LBW). The studies also rely in determining fat content on measurement of BD (Body Density) and then determine the percentage of fats in accordance with the (Siri) equation (Fox et al, 1989). In case of access to lipids ratio, fats body mass can be reached by multiplying the percentage by body mass and thus (LBW) can be obtained by body mass minus the fat mass (McArdle, Katch & Katch, 1981).

In relation to previous studies that has shown interest in knowing physical configuration, the study by Abdul Haq (2007) aimed to identify the contribution of some physical and anthropometric measurements in the level of performing the skill of jumping in extension and contraction for young gymnasts on a sample of 30 young athletes. Results of the study showed that anthropometric measurements play an important role in determining the level of performance skills to jump

in extension and contraction, and a better relationship was for abdominal circumference.

Abdul Haq (2005) conducted a study, which aimed to identify some of the anthropometric characteristics (physical measurements in terms of lengths, circumference, symptoms and thickness of fat folds) for students at primary fourth and fifth grades in the schools of Nablus, in addition to knowledge of the differences in these measurements to the variable gender, class, the study sample consisted of 300 students from basic school students in the schools of Nablus. The study results showed that there is no statistically significant differences at level = ($\alpha = 0.05$) between males and females (9-10) years in the variable of height and body mass, while the differences in favor of males in length and body mass, whereas differences were significant in favor of males in foot length, forearm and shoulder lengths, and differences were in favor of females in thigh and torso length. Results of the study also showed that there are significant differences in favor of females in the circumference of upper arm and thigh, while were not statistically differences among males and females in the vicinity of the forearm and symptoms of shoulders and thighs, wrist, ankle and elbow.

As for Mandur study (1997), which aimed to determine the anthropometric and physiological characteristics of primary school students (9-10 years) in Alexandria, the study was conducted on (3374) students from basic fourth and fifth grades. The researcher used the descriptive approach and results of the study showed distinction of boys over girls in the lengths of thigh, torso, upper arm, forearm and foot, while girls outperformed in the length of forearm and leg, as results showed superiority of girls over boys in the length of the overall height of the body, body mass at the level of the fourth grade, and the superiority of girls over boys in all measurements of the thickness of the fat and skin.

In Johnson's study, conveyed by (Melina & et al, 1991), which aimed to determine the anthropometric characteristics of Americans students at stage (9-10 years), where results of the study showed that the average leg of American girl is (26) cm and 27 cm for these stage, reached upper arm circumference (24.68 cm), (26.28 cm) for the same period and the average thickness of the folds of fat of the abdomen (11.69) mm.

In Lilia study (Lilia et al, 2001), which aimed to perform a set of anthropometric measurements on the basic school students in Mexico between ages (6-11) years, where he conducted (150) physical measurement on a sample of (4758) students. Results of the study were compared with American and Cuban students, and the results showed that there were no statistically significant differences between males and females in this age, but there are differences in some variables such as circumference (thigh) and some measurements of skin folds.

Problem of the Study

The concern for the individual and the study of manifestations of his growth characteristics at every stage is a positive indicator for the progress of any society and its development as different growth stages are connected to each other. They are the stages of formation where individual physical, mental, social and emotional growth is made, but at different rates and therefore profoundly affect future life of the individual. The current study is unique in the study of variables (body mass, height, the average thickness of fat, muscle, and body mass index), so that is a new study in Palestine with regard to the physical structure of each stage of education, the occurrence of developments and leaps of quality of these variables at any particular stage. Hence, problem of the study emerged for researchers in order to reach a real figures based on simple measurements and achieve a high degree of validity and reliability, which in turn will contribute to selection of sports and players choose the process to upgrade athletic levels to benefit from them in the future with the physical education teachers and coaches of different games and researchers as well.

Questions of the study

This study sought to answer the following questions:

1. What is the change curve in body composition for female students in educational grades (1 – 12) in Palestinian schools?
2. What is the relationship between height, weight, percentage of fat, muscle mass and body mass index for each stage of the educational grades (1-12) in the Palestinian schools?

Objectives of the Study

This study aimed to find out the change curve in body composition among female students in educational grades (1-12) in Palestinian schools, and to identify the

relationship between heights, body mass, percentage of fat mass, muscle variables, body mass index for each stage of the educational grades mentioned.

METHODOLOGY & PROCEDURES

Methodology

The researcher used the descriptive method with one of correlation forms as appropriate to purposes of the study.

Population of the Study

Population of the study consists of about (7000) female students from various educational grades in governmental schools according to the census of Directorate of Education in Selvit governorate in the first term for the year 2016 – 2017.

Sample of the Study

The study was conducted on female students in governmental schools in Selvit governorate (180 students). The sample was selected randomly in (15) female students from various educational grades starting from the first primary year until the 12th grade (guidance). Table 1 shows a description of sample of the study according to the variables of height (m) and body mass (kg).

Tools of the Study and Practical Procedures of Measurement

In order to collect data, the following tools and procedures are used:

First, data collection form, which included the following information for members of the sample (name, age, and weight), and the balance was used in order to determine the weight of students without wearing shoes.

Length was also measured by meters by fixing the meter on the wall and the length of the student is measured, a piece of cardboard is fixed overhead with taking the measurement (by meter) without wearing shoes and looking forward with feet close to each other.

Second: (Skin fold): was used to take measurements of thickness of skin folds and to determine the average thickness of the fat has been used in several areas in mm including:

Table 1: Description of study sample due to height & weight

| Grade/variable | 1 st | 2 nd | 3 rd | 4 th | 5 th | 6 th | 7 th | 8 th | 9 th | 10 th | 11 th | 12 th | Total |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|-------|
| Weight | 21.5 | 27.9 | 27.5 | 32.2 | 35.6 | 45.2 | 48.3 | 51.5 | 54 | 55.9 | 54.7 | 56.7 | 42.6 |
| Length | 1.13 | 1.24 | 1.27 | 1.35 | 1.39 | 1.48 | 1.53 | 1.55 | 1.61 | 1.60 | 1.59 | 1.60 | 1.44 |

- Skin bending thickness in triceps.
- Skin bending thickness in abdomen.
- Skin bending thickness in the thigh.
- Skin bending thickness in the chest.
- Skin bending thickness in the higher suprailiac area.

The right area of the body was adopted for all measurements related to skin thickness (fat thickness).

Third: Muscle Mass: as for (LBW) measurement, it was made through determining fat mass, multiplying fat percentage by body mass, fat percentage, body mass and then obtaining fat mass in kg and then calculating (LBW) (kg through subtraction of fat mass from total mass according to the following equation:

Muscle Mass = Body Mass – Fat (Lipids) Mass
(McArdle, Katch & Katch, 1981)

Fourth: BMI (kg/m²). This was measured through multiplying the person's mass in kg by square length according to the following equation:

(BMI) kg/m² = Body mass in kg/height (m) (Ravussin & Swinburn, 1992).

All of these processes were implemented using computer on the Statistical Package for Social Sciences SPSS program.

Results of the Study

First results on the first question

What is the curve of change in body composition among female students in educational grades (1-12) in Palestinian schools?

In order to see the change curve in body composition among a sample of the study, the researcher used arithmetic mean and standard deviation for each grade of the classrooms for the variables under study (body mass, height, muscle mass, and Body Mass Index), and the results were as follows, as illustrated in Table 2. With regard to thickness of the fat, Table 3 shows arithmetic means and standard deviations depending on areas of measurement in the research.

Table 2 shows that arithmetic means of length, weight, muscle mass, and Body Mass Index for female students of various grades from (1 – 12) as follows: (19.5 kg/m², 36.12 kg, 1.44 kg, 42.64 kg).

Figure 1 shows length, weight, muscle mass, and Body Mass Index for female students of various grades from (1 – 12).

Table 3 shows that arithmetic means of fat thickness variables for female students of various grades from (1 – 12) are as follows according to measurement areas: (14.9/20.9/24.8/15.7/13.4) mm.

Second results of the second question

What is the relationship between height, weight, percentage of fat, muscle mass and body mass index for each stage of the educational grades (1-12) in the Palestinian schools?

To answer this question, the researchers used (Correlation Coefficient Person) and results of Table 4 as follows.

Table 4 shows that there is a positive statistically significant correlation between all variables (weight, height and fat thickness, muscle mass and Body Mass Index BMI), and there was a stronger relationship between height and Body Mass Index, reaching the value of Pearson's correlation coefficient to (0.973). To find out whether there were differences between the averages of the students in body composition curve, the researchers conducted an analysis of variance and Table 5 shows that.

Table 5 shows that the (F) calculated value consecutively according to variables under study (10.31/5.712/9.236/4.942/9.070). Since the tabulated (F) value is smaller, with statistically significant differences at significance level (0.05) in the curve of change in body composition for female students at various educational stages from 1 to 12. To determine differences in variables among grades, the test and Table 6 was used to show results of the test.

Table 2: Arithmetic means and standard deviations of weight, length, muscle mass and body mass index on a sample of female students in educational grades from (12-1) to (N=180)

| Grade | Mean – SD | Weight (kg) | Length (m) | Muscle Mass (kg) | BMI |
|------------------|-----------|-------------|------------|------------------|-------|
| 1 st | Mean* | 21.59 | 1.13 | 20.22 | 16.5 |
| | SD** | 2.84 | 5.48 | 1.87 | 1.5 |
| 2 nd | Mean | 27.96 | 1.24 | 25.12 | 17.76 |
| | SD | 7.99 | 7.46 | 5.27 | 3.49 |
| 3 rd | Mean | 27.56 | 1.27 | 25.01 | 16.97 |
| | SD | 4.96 | 5.15 | 3.27 | 3.23 |
| 4 th | Mean | 32.2 | 1.35 | 28.47 | 17.45 |
| | SD | 6.24 | 6.61 | 4.12 | 2.54 |
| 5 th | Mean | 35.61 | 1.39 | 31.65 | 18.20 |
| | SD | 7.54 | 6.87 | 4.98 | 2.69 |
| 6 th | Mean | 45.24 | 1.48 | 38.71 | 20.4 |
| | SD | 8.20 | 6.84 | 5.41 | 3.13 |
| 7 th | Mean | 48.35 | 1.53 | 39.90 | 20.41 |
| | SD | 12.2 | 8.36 | 8.10 | 3.37 |
| 8 th | Mean | 51.15 | 1.55 | 41.86 | 20.9 |
| | SD | 14 | 6.9 | 9.25 | 4.78 |
| 9 th | Mean | 54 | 1.61 | 44.57 | 21.03 |
| | SD | 9.0 | 6.94 | 5.99 | 3.82 |
| 10 th | Mean | 55.97 | 1.60 | 44.74 | 21.74 |
| | SD | 7.71 | 6.32 | 9.7 | 5.28 |
| 11 th | Mean | 54.7 | 1.59 | 45.29 | 21.4 |
| | SD | 7.71 | 4.23 | 5.09 | 2.5 |
| Guiding | Mean | 56.7 | 1.60 | 45.36 | 22.11 |
| | SD | 7.07 | 7.6 | 4.6 | 3.03 |
| Total | Means | 42.64 | 1.44 | 36.12 | 19.5 |
| | SD | 15.2 | 17 | 0.10 | 3.80 |

*Mean, **Standard deviation

Table 3: Arithmetic means and standard deviations of fat thickness for female students in various educational grades from (12-1) to (N=180)

| Grade | Upper arm | | Waist | | Thigh | | Pelvis | | Chest | |
|------------------|-----------|------|-------|------|-------|-------|--------|------|-------|------|
| | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD |
| 1 st | 7.86 | 1.95 | 7.66 | 3.13 | 14.7 | 5.58 | 5.58 | 2.08 | 7.33 | 2.94 |
| 2 nd | 9.93 | 2.84 | 10.4 | 5.27 | 20.33 | 6.61 | 6.61 | 8.79 | 11.26 | 6.59 |
| 3 rd | 9.60 | 3.35 | 9.13 | 3.13 | 20.40 | 5.43 | 5.43 | 7.97 | 9.06 | 3.75 |
| 4 th | 10.60 | 4.37 | 13 | 5.04 | 22 | 5.22 | 5.22 | 6.80 | 12 | 4.58 |
| 5 th | 10.53 | 3.83 | 10.20 | 6.37 | 20.73 | 6.49 | 6.49 | 8.60 | 13.20 | 8.37 |
| 6 th | 12.53 | 4.25 | 15 | 7.52 | 24.80 | 7.58 | 7.58 | 8.51 | 15.33 | 5.87 |
| 7 th | 15 | 4.61 | 19.06 | 9.01 | 29.6 | 6.23 | 6.23 | 6.12 | 17.06 | 5.44 |
| 8 th | 15.73 | 5.95 | 21.4 | 8.20 | 26.2 | 7.17 | 7.17 | 10.2 | 20.2 | 8.85 |
| 9 th | 17.06 | 4.46 | 18.8 | 7.12 | 28.6 | 1.42 | 1.42 | 9.10 | 17.40 | 9.30 |
| 10 th | 18.20 | 6.25 | 22.13 | 9.59 | 32 | 11.38 | 11.38 | 6.55 | 20 | 7.85 |
| 11 th | 15.86 | 2.85 | 17.9 | 5.36 | 29.53 | 6.85 | 6.85 | 5.71 | 15.6 | 4.95 |
| 12 th | 18.26 | 4.55 | 23.80 | 8.91 | 28.8 | 6.96 | 6.96 | 4.50 | 20.4 | 9.66 |
| Total | 13.4 | 54 | 15.7 | 8.56 | 24.8 | 8.71 | 8.71 | 9 | 14.9 | 7.89 |

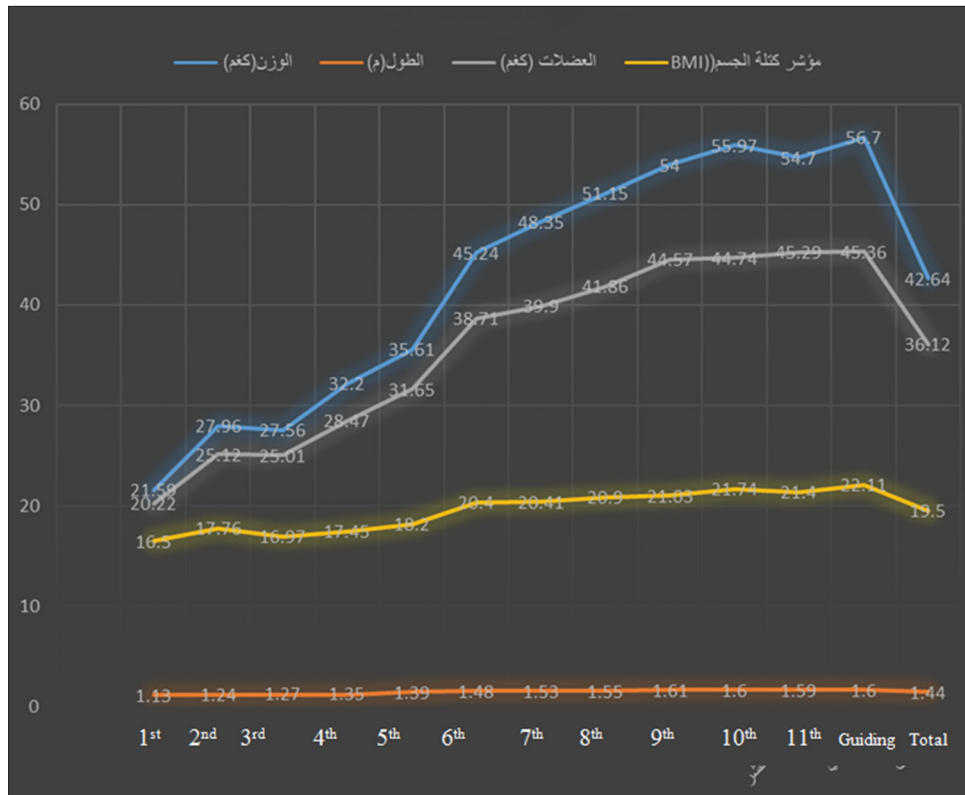


Figure 1: Shows length, weight, muscle mass, and Body Mass Index for female students of various grades from (1 – 12)

Table 4: Results of correlation coefficient pearson for relation between length, weight, fat thickness, muscles, BMI for female students in various educational grades from (12-1) to (N=180)

| BMI | Muscle mass | Fat thickness | Length | Weight | Variables |
|---------|-------------|---------------|---------|--------|---------------|
| 0.823** | 0.961** | 0.773** | 0.856** | | Weight |
| 0.937** | 0.889** | 0.380** | | | Length |
| 0.369** | 0.712** | | | | Fat thickness |
| 0.886** | | | | | Muscle mass |
| | | | | | BMI |

**Statistically significant at level (0.05), ($\alpha = \lambda = 0.01$)

Table 6 shows that differences were statistically significant at significance level ($0.05 = \alpha$) in the curve of change in body composition for variables under study with female students of different grades (1-12), and in favor of the higher grades.

DISCUSSION OF RESULTS

Regarding the length, arithmetic mean of age (6-18) reached (1.44 m). By comparing these results tables percentiles of the National Center of the American Health Statistics (NCHS) (Margret, et al, 1995), we find that the average height with the Palestinian females was higher than the average lengths of US and European females with stability in the

medium height along after the age of 16 years, but after the age of 15, American and European females excelled in length over Palestinian females (James, et al, 1990). The qualitative leap lengthwise occurs specifically for students of fifth grade. These numbers agreed with the study conducted by (Mandur, 1997), and (Abdul Haq, 2005) on the fourth and fifth grade students, with an average length in this age of Palestinian female (1,365 m), while the female Americans and European females have an average height of (1.35 m) for this phase, while Japanese and Indian females were smaller (Koley, etal, 2009). The researchers attribute this difference to environmental, genetic factors and the nature of food intake.

Table 5: Analysis of variance with difference significance in body composition curve for female students according to grade

| Variable | Total deviation squares | Freedom degrees | Average squares | F |
|--------------|-------------------------|-----------------|-----------------|-------|
| Wright | | | | |
| Inter-groups | 12230.31 | 11 | 1111.481 | 10.03 |
| Intra-group | 18621.296 | 168 | 110.481 | |
| Total | 30851.611 | 179 | | |
| Length | | | | |
| Inter-groups | 4.503 | 11 | 0.409 | 0.712 |
| Intra-group | 12.028 | 168 | 0.071 | |
| Total | 16.531 | 179 | | |
| Fats | | | | |
| Inter-groups | 6870.231 | 11 | 624.566 | 9.236 |
| Intra-group | 11360.093 | 168 | 67.619 | |
| Total | 18230.323 | 179 | | |
| Muscle mass | | | | |
| Inter-groups | 610.218 | 11 | 55.474 | 4.942 |
| Intra-group | 1885.495 | 168 | 11.223 | |
| Total | 2495.713 | 179 | | |
| BMI | | | | |
| Inter-groups | 3960.747 | 11 | 269.159 | 9.070 |
| Intra-group | 4983.368 | 168 | 29.674 | |
| Total | 7946.125 | 179 | | |

Statistically significant at level ($\alpha=0.05$)

Table 6: Results of testing post-comparisons among arithmetic means

| Grade | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 1 st | - | -1.19 | -1.98 | -2.61 | -3.28 | 14.96 | 19.27 | 16.89 | 11.62 | 9.54 | 3.06 | 0.22 |
| 2 nd | - | - | -0.79 | -1.42 | -2.10 | 16.15 | 20.45 | 18.07 | 12.81 | 10.73 | 4.25 | 1.14 |
| 3 rd | - | - | - | -0.64 | -1.31 | 16.94 | 21.24 | 18.86 | 13.60 | 11.52 | 5.04 | 2.19 |
| 4 th | - | - | - | - | -0.67 | 17.57 | 21.88 | 19.50 | 14.23 | 12.16 | 5.67 | 2.38 |
| 5 th | - | - | - | - | - | 18.25 | 22.55 | 20.17 | 14.90 | 12.83 | 6.35 | 3.50 |
| 6 th | - | - | - | - | - | - | 4.30 | 1.92 | -3.34 | -5.42 | -11.90 | -14.75 |
| 7 th | - | - | - | - | - | - | - | -2.38 | -7.65 | -9.72 | -16.22 | -19.05 |
| 8 th | - | - | - | - | - | - | - | - | -5.27 | -7.34 | -13.38 | -16.67 |
| 9 th | - | - | - | - | - | - | - | - | - | -2.08 | -8.56 | -11.40 |
| 10 th | - | - | - | - | - | - | - | - | - | - | -6.48 | -9.33 |
| 11 th | - | - | - | - | - | - | - | - | - | - | - | -2.84 |
| Guiding | | | | | | | | | | | | |

Statistically significant at level ($\alpha=0.05$)

With respect of body weight, through results of the study, we see that there is a clear increase in weight among students of fifth and sixth grades, where average weights of the students of various educational classes are (42.64) kg. When compared to the results of other studies (Margret, et al, 1995), (Mandur, 1997), we find that the weight of Americans of African females

in the age (6-16 years) are more than the weight of Palestinian females, while European females weight was less weight by 2 kg in the stages of (9-12) compared to Palestinian females of the same stage (James, et al, 1990), while the weight of the Japanese and Indian female was less than the weight of Palestinian females (Koley, etal, 2009), while most studies carried out in

different places of the world and which confirms that the child anthropometric characteristics at the age (8-10) consistent at the apparent increase in growth of height and weight as percentages with physical change at this stage (James, et al, 1990), and attributes the researchers differences in height and weight to environmental and genetic, economic and nutritional factors as agreed results with Mandur study (1997), and Abdul Haq (2005).

In terms of Body Mass Index (BMI), the mean reached (19.5) kg/m². By looking at the results and compare them to international standards set by the law (1998, Anon) where class individuals as follows: 18.5 kg/m² (less than normal weight) "slim", 18.5-24.9 kg/m² weight \ normal, 25-29.9 kg/m² "fat" 0.30 kg/m² or "more obese". We see that the elementary grades (first, second, third, fourth and fifth grades) are considered within the classification "slim", where results of body mass index have less than 18.5 kg/m², while the stages of the other grades were within normal healthy weight for the individual. In a study by (Koley, et al, 2009), they found that a higher Body Mass Index among Indian females was at the age of 15 years, reaching 20.16 kg/m² and is filed under normal weight. This reason is due to the nature of food in addition to environmental and economic factors, and the study by (Rcachera, et al, 1991) traced the stages of growth among French children in terms of Body Mass Index found that the average Body Mass Index among students was less than 18.5 kg/m², which is located within the classification "slim" (less than normal weight), and this stage of the first primary until the seventh grade, but the rest of the stages of the ranks of education were within normal and healthy stages and good weight for exercise. This reason may be attributed to the attention of the French nutrition programs and regular exercise in addition to the difference in time and the number of sport shares given in schools among students. British children have the Body Mass Index slightly higher, (Cole, et al, 1991). It is worth mentioning that the Body Mass Index increases as children's progress in life because of its direct association with weight and height, but it varies according to heredity and environment (2007 Daij, et al,) and is associated with the increase or decrease in body mass index of activity practiced and followed by the student (Maria, et al, 2006).

Regarding muscle weight (LBW), the mean was (36.12) kg. By looking at the results, we found that the increase in muscle mass was constant for the students

of educational classes except for the sudden increase in muscle mass among fifth-grade students.

With regard of fat thickness (the average thickness of fat for the posterior surface of the upper arm was of 13.4, average thickness of fats to the abdominal area of 15.7, average thickness of fats to the thigh area and thickness of 24.8 fats, 14.9 for the chest area and the average thickness of pelvis is 20.9) millimeters. The researchers believe that the fat content for Palestinian females came more than French, Canadians and Indian females, (Rcachera, et al, 1991), (James, et al, 1990). The reason is due to the difference in the nature of nutrition as well as the lack of sports activities, a lack of interest and encouragement by the community and parents as well as the nature of sports education classes, which are not sufficient in terms of quantity and quality of female Arab sport to practice and the lack of venues and facilities, and this was confirmed by the study of each of (Khanfar, 2001), (Emad, 2005). As for the Americans, fat content to them was higher compared with Palestinians, which were increasing in every stage of life, and the researchers attribute this to the nature of food compared with females in the Palestinian environment, with an average thickness of fat in the waist area for American females at the age of 9-10 years to become (11.69 mm) while (10.20) mm for Palestinian females. These results also agreed with each study of Cynthia, et al, 1990 and) Flegal, et al, 2010).

CONCLUSIONS

In light of the results of the study and their discussion, the researchers concluded the following:

1. The growth factor is clear from grade to another, where variables showed increase in some rows and stability in other classes. This shows the difference in physical composition of each age category in addition to the occurrence of quantum leaps of those variables.
2. The apparent increase in the weight and height is at the age (8-10). These results agreed with most of the studies carried out in different places of the world.
3. The level of Body Mass Index among female students was normal, reaching average to 19.5 kg/m².
4. The proportion of fat was slightly higher than normal for Palestinian females compared to other studies, with the exception of the proportion of fat for African-American female.

5. There is a positive correlation between the variables under study for various educational grades.

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