COMPARATIVE ASSESSMENT OF NUTRITIONAL KNOWLEDGE SOCIOECONOMIC STATUS AND BODY COMPOSITION AMONG THE COLLEGE YOUTH

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ABSTRACT

The purpose of the study was to compare the nutritional knowledge, socioeconomic status and body composition (BMI) among the athletes, non-athletes with fitness orientation and non-athletes without fitness orientation. Total 90 samples were selected from lovely professional university phagwara, Punjab. The samples were divided into three groups as athletes, non-athletes with fitness orientation and non-athletes without fitness orientation. Each group had equal size of 30 samples. The nutritional knowledge among these groups was measured by questionnaire of "Dietary Habits and Nutritional Knowledge Questionnaire" approved by the California University of Pennsylvania IRB. The socioeconomic status was also measured by questionnaire "Socioeconomic Status Scale (SESS)" given by Rajbir Singh, Radhey Shyam and Satish Kumar. The body composition (BMI) of subjects was analysed/measured by the electronic "Body Composition Analyser (OMRONS). To know the statistical difference the one way analysis of variance (ANOVA) was used.

Result: *It was observed that Athletes (71.86) and non-athletes without fitness orientation (70.62) possess higher nutritional knowledge as compared to non-athletes with fitness orientation (65.66). Non-athletes with fitness orientation (150.56) possess a higher socioeconomic status followed by athletes (129.53). The non-athletes without fitness orientation possess a lower socioeconomic status (116.06).*

On comparison of body composition (BMI) the athletes (21.40) and non-athletes without fitness orientation (21.45) had almost similar value on BMI but the non-athletes with fitness orientation possess a higher value on BMI (23.16) as compared to other groups.

Conclusion: *Socioeconomic status of one of the youth groups being high and lack of nutritional knowledge, bad dietary habits among them affects their overall body composition (BMI). Another youth group despite of having good nutritional knowledge are not able to fulfil their daily nutritional requirement due poor socioeconomic status which also affects the body composition (BMI) of the youth.*

KEYWORDS: *Nutritional Knowledge, Socioeconomic Status, BMI.*

INTRODUCTION

Food and socioeconomic status plays a dominant role in shaping the diets of children and may contribute to the development of obesity and other adverse health outcomes. The requirement for viable nutritional instruction for youth has turned out to be progressively obvious given their general food habits and behaviour, especially amid immaturity. The study is based on interaction among youth on socioeconomic status, nutritional knowledge and body composition within the athletes, Non-athletes with fitness orientation and Non-athletes without fitness orientation.

Statement of the problem

The purpose of the present study is to assess and compare athletes, non-athletes with fitness orientation and non-athletes without fitness orientation on the basis of their nutritional knowledge, socioeconomic status and body composition.

Delimitations

1. This study will be delimited to 90 athletes between the age group 18-22 years.
2. Further the study will be delimited to three sample categories athlete, non-athletes with fitness orientation and non-athletes without fitness orientation.
3. All samples will be selected from Lovely Professional University.

Limitations

1. Questionnaire research has its impediments. All things considered, any predisposition that may have crawled into the subject response on this record might be considered as a limitation of this study.
2. Athlete's authenticity towards response to questionnaire may be considered as a limitation of this study.
3. Demographic condition of respondents could be also a factor for limitation.
4. Emotional state of respondents while responding the questionnaire may be considered as another limitation of the study.

Hypotheses

1. **H^0 –** There will be an insignificant difference among the youths on nutritional knowledge and socioeconomic status.
2. **H^1 –** There will be a significant difference among the youths on nutritional knowledge and socioeconomic status.
3. There will be a significant difference among the youths on body composition.

Definition and Explanation of terms

Athletes

Refer to individuals who are active. Interested in body fitness and competitive amateur or professional.

Non-athletes with fitness oriented.

Refer to individuals who are not active. They are neither competitive amateur nor professional but are interested in fitness of body.

Non-athletes without fitness oriented.

Those individuals who do not involve in any form of physical activities and are more likely to practice a sedentary lifestyle.

Nutritional Knowledge

Nutrition knowledge id defined as knowledge of nutrients. This knowledge is applicable when a consumer learns how to benefit from the knowledge of nutrients.

Socio-economic status

Field of study that analyzes social and financial components to better see how the mix of both impacts something.

Body composition

Body composition is that the technical term accustomed describe the various parts that, once taken along, build somebody's whole weight. The body consists of different kinds of tissue. The therefore 'lean' tissues, like muscle, bone and organs that area unit metabolically active, whereas fat aren't. So the body composition absolutely refers in the main to the relative proportion of the 3 principal tissue part of body i.e. bone, muscle and fat.

Significance of the study

To emphasize the necessity of nutrition based awareness program for athletes. To know the significance of SES (low/high) puts impact on nutritional preference and body composition of athletes. Impact of socio-economic status and nutritional knowledge on the body composition of subject. Nutritional knowledge can be seen as a key prevention strategy for enhancing performance and obesity.

Design of the study

In the given study descriptive research design was used in order to establish any comparison among the samples on selected variables.

Sampling design

Figure- 3.1

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                    ┌─────────────┐
                    │ 90 Samples  │
                    └─────────────┘
           ↙             ↓              ↘
  ┌─────────────┐  ┌──────────────┐  ┌──────────────┐
  │ 30 Athletes │  │ 30 Non-      │  │ 30 Non-      │
  │             │  │ Athletes     │  │ athletes     │
  │             │  │ with fitness │  │ without      │
  │             │  │ orientation  │  │ fitness      │
  │             │  │              │  │ orientation  │
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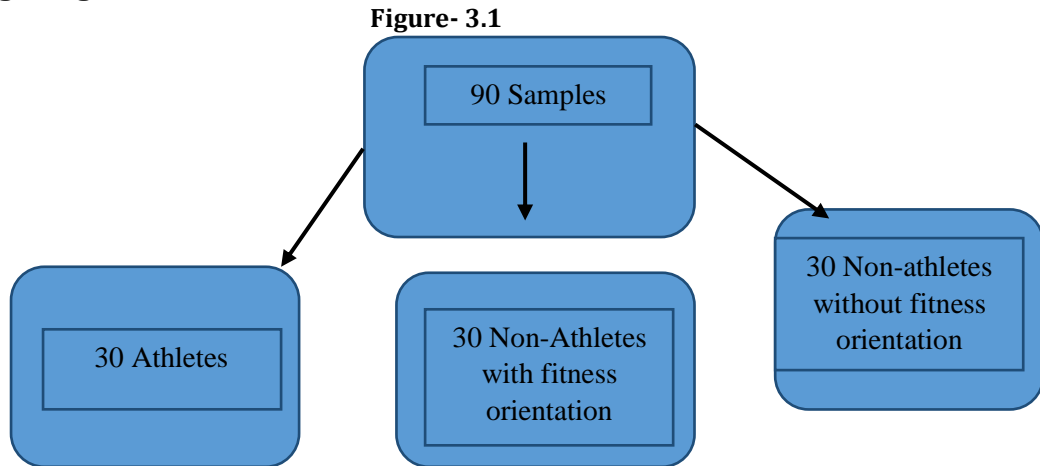
Selection of variables

After the discussion with the supervisor, following variables were being selected for the purpose of the study.

Table 3.1

Variables	Test/Questionnaire by	Criterion Measures
Nutritional Knowledge	Dietary Habits and Nutritional Knowledge Questionnaire	Scoring
Socioeconomic Status	Socioeconomic Status Scale by Rajbir Singh, Radhey Shyam and Satish Kumar	Scoring
Body Composition	OMRON Body Mass Analyser	Reading on Machine

Tools
Socioeconomic Status Scale (SESS)
Distribution of the scores

The distribution of raw score, T-scores and percentile equivalents of socioeconomic status raw score is represented below:

Table - 3.2

SES categories		Raw scores	T-scores	Percentile
Low SES		41 & Below	Below 40	Below 17
	Lower	42 - 56	40 - 46	17 – 36
Middle SES	Average	57 - 76	47 - 53	37 – 62
	Upper	77 - 100	54 - 60	63 – 84
High SES		101 & above	61 & Above	85 & Above

Reliability and validity of the inventory

S. No.	Inventory	Reliability	Validity
1	SESS	0.791	0.737

Dietary Habits and Nutritional Knowledge Questionnaire
Reliability and validity

The reliability coefficients for dietary habits 0.66 and 0.645 for nutritional knowledge, respectively.

Validity of the inventory was considered as it was approved and implemented in various studies.

Body Composition Analyser
Interpreting the BMI result

The result of BMI data can be interpreted through the following table;

Table – 3.3

BMI	Classification (by the WHO)
Less than 18.5	- (Underweight)
18.5 – 25	0 (Normal)
25 – 30	+ (Overweight)
30 or more	++ (Obese)

Result Interpretation of body fat percentage

Table – 3.4

Gender	- (Low)	0 (Normal)	+ (High)	++ (Very High)
Male	5.0 – 9.9%	10.0 – 19.9%	20.0 – 24.9%	25.0 – 50.0%

Collection of Data

With the help of questionnaire related to nutritional knowledge and socioeconomic status necessary data will be collected. Body Composition analyser (OMRON Model HBF-362) was used to analyse BMI.

Statistical Technique

In the present study, for the interpretation of data the one way analysis of variance (ANOVA) statistical technique was used. Descriptive statistics is also used for calculation of means. SPSS was applied to process the data statistically. Significance level was set at 0.05.

FINDINGS

The Descriptive statistics of athletes, non-athletes with fitness orientation and non-athletes without fitness orientation on nutritional knowledge, socioeconomic status and body mass index are shown in tables below;

Table – 4.1
Descriptive statistics of nutritional knowledge

S. No.	Descriptive	Athletes	Non-Ath. W FA	Non-Ath. Wo FA
Variable – **Nutritional Knowledge**				
1	N	30	30	30
2	Range	27.59	29.31	28.44
3	Minimum Statistic	56.89	47.41	58.62
4	Maximum Statistic	84.48	76.72	87.06
5	Sum	2155.90	1970.05	2118.70
6	Mean	71.863	65.668	70.623
7	Mean Std. Error	1.252	1.193	1.281
8	Std. Deviation	6.862	6.539	7.018
9	Variance	47.088	42.766	49.260
10	Skewness	-0.211	-0.776	0.237
11	Std. Error Skewness	0.427	0.427	0.427
12	Kurtosis	-0.416	0.963	-0.209
13	Std. Error Kurtosis	0.833	0.833	0.833

Table 4.1 reflects the descriptive values of Athletes, Non-athletes with fitness orientation and Non-athletes without fitness orientation in relation to nutritional knowledge.

Table - 4.2
Descriptive statistics of socioeconomic status

S. No.	Descriptive	Athletes	Non-Ath. W FA	Non-Ath. Wo FA
	Variable – **Socioeconomic Status**			
1	N	30	30	30
2	Range	193	179	162
3	Minimum Statistic	60	82	49
4	Maximum Statistic	253	261	211
5	Sum	3886	4517	3482
6	Mean	129.533	150.566	116.066
7	Mean Std. Error	7.445	8.479	7.265
8	Std. Deviation	40.778	46.445	39.795
9	Variance	1662.878	2157.220	1583.72
10	Skewness	1.424	0.400	1.005
11	Std. Error Skewness	0.427	0.427	0.427
12	Kurtosis	2.815	-0.541	0.774
13	Std. Error Kurtosis	0.833	0.833	0.833

Table 4.2 reflects the descriptive values of Athletes, Non-athletes with fitness orientation and Non-athletes without fitness orientation in relation to socioeconomic status.

Table – 4.3
Descriptive statistics of Body mass index

S. No.	Descriptive	Athletes	Non-Ath. W FA	Non-Ath. Wo FA
	Variable – **Body Mass Index**			
1	N	30	30	30
2	Range	8.60	11.90	21.00
3	Minimum Statistic	17.00	18.50	17.20
4	Maximum Statistic	25.60	30.40	38.20
5	Sum	642.20	694.90	643.70
6	Mean	21.406	23.163	21.456
7	Mean Std. Error	0.381	0.595	0.735
8	Std. Deviation	2.090	3.260	4.025
9	Variance	4.370	10.633	16.208
10	Skewness	-0.023	0.593	2.628
11	Std. Error Skewness	0.427	0.427	0.427
12	Kurtosis	-0.439	-0.333	9.716
13	Std. Error Kurtosis	0.833	0.833	0.833

Table 4.3 reflects the descriptive values of Athletes, Non-athletes with fitness orientation and Non-athletes without fitness orientation in relation to body composition (BMI).

RESULTS & ANALYSIS

For finding the outcome the comparison among athletes, non-athletes with fitness orientation and non-athletes without fitness orientation on pre-determined variables like nutritional knowledge, socioeconomic status and body composition, was done by using ANOVA. Post hoc was calculated where significant difference was least, significant f-ratio was also measured.

The data was processed using SPSS (Version 20). The related results and the graphical representation of the data is presented as under;

1. **Analysis of variance among Athletes, Non-athletes with fitness orientation and Non-athletes without fitness orientation on Nutritional knowledge**

Table – 4.4

	S S	Df	M S	F
Between Groups	644.677	2	322.338	
Within Groups	4034.32	87	46.372	6.951*
Total	4679	89		

Figure 4.1

Graphical representation of mean among athletes, non-athletes with fitness orientation and non-athletes without fitness orientation on nutritional knowledge
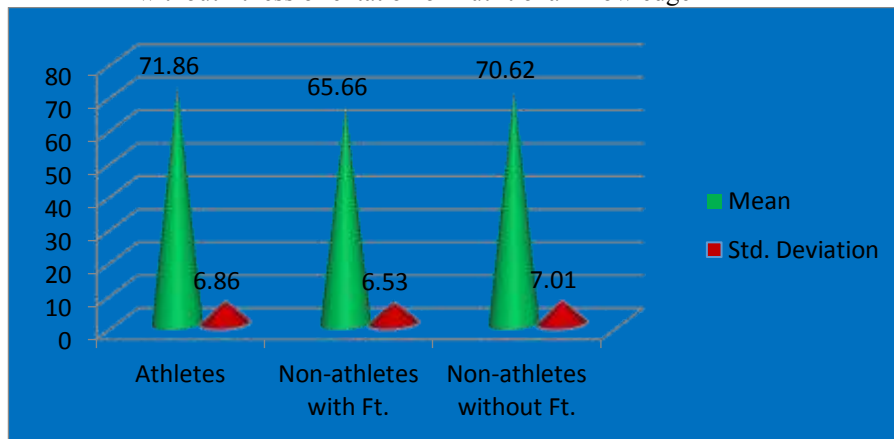
Multiple Comparisons

Dependent Variable: Nutritional Knowledge (LSD)

Table 4.5

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Athletes	Fitness	6.19500*	1.75825	0.001	2.7003	9.6897
	Non-athletes	1.24	1.75825	0.483	-2.2547	4.7347
Fitness	Athletes	-6.19500*	1.75825	0.001	-9.6897	-2.7003
	Non-athletes	-4.95500*	1.75825	0.006	-8.4497	-1.4603
Non-athletes	Athletes	-1.24	1.75825	0.483	-4.7347	2.2547
	Fitness	4.95500*	1.75825	0.006	1.4603	8.4497

* The mean difference is significant at 0.05 level.
** Values to be significant at 0.05 level with df (2,87) =3.099

2. **Analysis of variance among Athletes, Non-athletes with fitness orientation and Non-athletes without fitness orientation on Socioeconomic Status**

Table 4.6

	Sum of Squares	Df	Mean Square	F
Between Groups	8848.02	2	4424.01	
Within Groups	159006	87	1827.66	2.421
Total	167854	89		

Figure 4.2

Graphical representation of mean among athletes, non-athletes with fitness orientation and non-athletes without fitness orientation on socioeconomic status
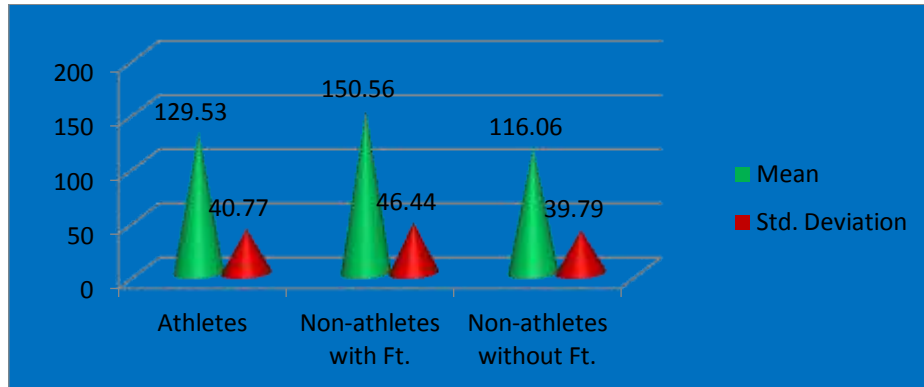
Multiple Comparisons

Dependent Variable: Socioeconomic Status (LSD)

Table - 4.7

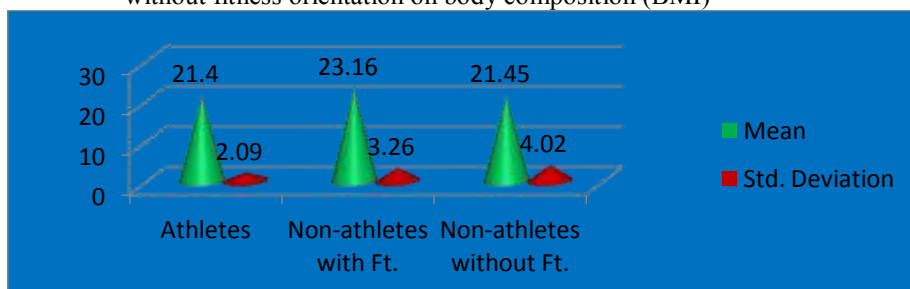| (I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Athletes	Fitness	-21.03333	11.03829	.060	-42.9731	.9065
	Non-athletes	.00000	11.03829	1.000	-21.9398	21.9398
Fitness	Athletes	21.03333	11.03829	.060	-.9065	42.9731
	Non-athletes	21.03333	11.03829	.060	-.9065	42.9731
Non-athletes	Athletes	.00000	11.03829	1.000	-21.9398	21.9398
	Fitness	-21.03333	11.03829	.060	-42.9731	.9065

3. **Analysis of variance among Athletes, Non-athletes with fitness orientation and Non-athletes without fitness orientation on Body Composition (BMI)**

Table – 4.8

	Sum of Squares	df	Mean Square	F
Between Groups	60.011	2	30.005	
Within Groups	905.122	87	10.404	2.884
Total	965.133	89		

Figure 4.3

Graphical representation of mean among athletes, non-athletes with fitness orientation and non-athletes without fitness orientation on body composition (BMI)

Multiple Comparisons

Dependent Variable: Body Composition (BMI)   LSD

Table – 4.9

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Athletes	Fitness	-1.75667*	.83281	.038	-3.4120	-.1014
	Non-athletes	-.05000	.83281	.952	-1.7053	1.6053
Fitness	Athletes	1.75667*	.83281	.038	.1014	3.4120
	Non-athletes	1.70667*	.83281	.043	.0514	3.3620
Non-athletes	Athletes	.05000	.83281	.952	-1.6053	1.7053
	Fitness	-1.70667*	.83281	.043	-3.3620	-.0514

*The mean difference is significant at 0.05 level.

**Value to be significant at 0.05 level with df (2,87) = 3.099

DISCUSSION

It was also observed that there was a significant difference among non-athletes with fitness orientation and non-athletes without fitness orientation (MD = 4.955*).

The statistical difference, when observed on nutritional knowledge among athletes, non-athletes with fitness orientation and non-athletes without fitness orientation, was found to be significant which is also supported by the reportings of **Jessri M, Rashid Khani B, Zinn C. (Jun 2010).**

Similarly it was observed that there was a significant difference among athletes and non-athletes with fitness orientation on socioeconomic status (MD = 21.033), but there was an insignificant difference among athletes and non-athletes without fitness orientation (MD = .000).

The statistical difference, when observed on socioeconomic status among the athletes, non-athletes with fitness orientation and non–athletes without fitness orientation, was found to be significant which is supported by the findings of **Babar N. F, Muzaffar R, Khan M. A., (Dec 2010).**

In case of body composition (BMI), there was a significant difference between athletes and non-athletes with fitness orientation (MD = 1.756*), the difference was insignificant between athletes and non-athletes without fitness orientation (MD = 0.050). There was a significant difference between non-athletes with fitness orientation and non-athletes without fitness orientation (MD = 1.706*).

The statistical difference, when observed on body composition (BMI) among athletes, non-athletes with fitness orientation and non-athletes without fitness orientation, was found to significant which is also supported by **Datta Banik, Andrade Olalde, Rodriguez L., Dickinson F. (2014).**

Discussion of Hypotheses

It was hypothesised that there will be an insignificant difference among the youth on nutritional knowledge and socioeconomic status, on the basis of result of this study it was found that there was a significant difference among the youth on nutritional knowledge and SES hence the null hypotheses was not accepted.

It was also alternatively hypothesised that there will be a significant difference among the youth on nutritional knowledge and socioeconomic status, on the basis of result of this study it was found that there was a significant difference among the youth on nutritional knowledge and SES hence the alternate hypotheses was not rejected.

It was hypothesised that there will be significant difference among the youth on BMI, on the basis of findings of this study the hypotheses was not rejected, as there was a significant difference among only athletes and non-athletes with fitness orientation, and it was also known that there was an insignificant difference on body composition (BMI) among athletes and non-athletes without fitness orientation.

CONCLUSIONS

On the basis of the findings of the study in conjunctions with reviews and scholar's own understandings it was concluded that;

1. The selected groups lacked in nutritional knowledge.
2. Non-athletes without fitness orientation had a poor socioeconomic status. due to this their food intake is reduced. As they could not afford to meet daily needs due to their poor SES, regardless they had a good nutritional knowledge their body composition was also affected due to this factor.

3. Poor Socioeconomic Status and lack of nutritional knowledge affects the body composition of the youth. This study reflects that youth having poor SES had low body composition (BMI) and the youth having high SES but lack of nutritional knowledge had high body composition (BMI).

4. On drawing the comparison between groups it was concluded that having good nutritional knowledge and high socioeconomic status leads to improved body composition i.e. like Athletes, having high socioeconomic status and low nutritional knowledge and bad dietary habits leads to health risk and high BMI as in case of Non-athletes with fitness orientation. Regardless having good nutritional knowledge but poor

socioeconomic status affects the body composition similar to Non-athletes without fitness orientation.

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