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Comparative study of body composition for P.G., hostel and non hostel students of Karnataka University Dharwad

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Abstract

A purpose of the study was to investigate two forms of motivation for indulging in some kind of exercise regime. It was argued that different sections of the society differ in their motive to engage in physical activities. If some sections indulge in physical activities to gain something ulterior (instrumental) others participated in activity for its own sake. Individuals above age of 18 years who regularly participated in various physical activities as walking, jogging, badminton, aerobics, yoga, laughing club, gym were approached to respond to a questionnaire developed by Edward L. Deci and Richard M. Ryan. In addition to response to question items associated with motivation information such as age, gender, health condition, marital status, income, sports participation were also obtained. A total of 212 subjects participated in this study.

Keywords: Physical activities, motivation, Body Composition Study, physical fitness

Introduction

Though physical fitness to a primitive man was an unconscious outcome of his daily survival activity, to a modern man physical fitness has to be a conscious effort. A person, therefore, has to consciously get going (moving) to achieve the desired fitness. In order to do so modern man needs a motive, while the primitive needed no motive. To a modern man the motives take on a variety of forms, which boil down to internal and external motives.

Purpose of the Study

It is very clear that different sections of society indulge in vigorous physical activities for various reasons, that is, they expect some outcome of 'being fit'. This reason for 'being fit' is a result of type of motive – internal or external. However, in the process of 'getting fit' the motive may shift from external to internal or vice versa. But at a given point in time who has what kind of motive in our society is not empirically known. Therefore the purpose the study was to find out empirically the type of motive for getting or maintaining 'fitness' among various sections of the society – men & women; the young & the old; healthy and unhealthy; athlete and non athlete; married and unmarried; the rich and the poor.

Statement of the Problem

Since it is not empirically known whether internal or external motive makes people to engage in various forms of fitness activities in order to get fit the following questions arise.

1. Does form of motivation to involve in fitness activities differ for 'men' and 'women'?
2. Do married men & women have a different motivation form for fitness activities than the unmarried?
3. Do the youth, below the age of 40, have a different form of motivation for fitness activities than the old, above the age of 40?
4. Do the affluent differ in their form of motivation for fitness activities than those of 'not so affluent'?
5. Do older generation, who were sportsmen, are motivated differently from those who were not sportsmen?

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Hypothesis 5

There is no significant difference in the form of motivation to involve in fitness activities between those who were sportspersons and those who were not when they were young.

Hypothesis 6

There is no significant difference in the form of motivation to involve in fitness activities between those who were sportspersons and those who are married and those who are not married.

Significance of the Study

The study brings to light the section of people who are motivated for fitness. The very fact that the sample being surveyed is involved in fitness exercises means the subjects are motivated to do so. But no empirical study is available to suggest 'why do they want to be fit?' The study is trying to throw light on the purpose for which the adults, the youth and the old alike, are interested in fitness. In other words the study tries to throw light on 'why are people interested in personal fitness?', so that the fitness experts may create a congenial social, psychological and physical environment that satisfy the fitness needs of the population, there by attract them to be fit.

Limitations of the study

1. The study is inherently limited by the responses of the subjects who were approached. It was, therefore, assumed that the responses were honest and the respondents were sincere.
2. It was assumed that the responses to question items correctly indicated intrinsic and extrinsic motives for exercise of respondents.

Delimitations

The study was delimited to those who participated in some kind of physical activity programme and who were above the age of 18 years.

Definitions of Terms

1. Motive: psychological factor that moves an individual to act or to originate an action
2. Intrinsic motive: is that psychological factor that moves an individual to act for its own sake, and that satisfy individuals basic innate tendencies without any intervening factor.
3. Extrinsic motive: is that psychological factor that moves an individual to act, which satisfy individual's needs other than basic innate tendencies.
4. Healthy individuals: are those without any condition that may deprive the person to lead normal life.
5. Un-healthy individuals: are those with one or many conditions that may deprive the person to lead normal life.
6. Sports persons: are those who participated in competitive sports either during their school or college days.
7. Non-sports persons: are those who did not participate in competitive sports either during their school or college days.
8. Low-income group: those who earned less than Rs. 30,000/- per month.

9. Middle-income group: those who earned above Rs. 30,000/- but below Rs. 40,000/- per month.
10. High-income group: those who earned above Rs. 40,000/- per month.

Methodology

The main purpose of the study was to survey for motivation for exercise among those who regularly exercised in Dharwad city (walking, jogging, laughing club, recreational sports etc.). Selection of subjects for the study, the research tool, the procedure followed in collecting data for the study, data transformations, analysis of the data are described in the following sections.

Subjects

For the purpose of the study 212 adults males females of Dharwad city were randomly approached and requested to respond to the questionnaire. Additionally the following information was also sought:

1. Gender
2. Date of Birth
3. Marital Status
4. Income
5. Health condition
6. Sports Participation.

Subjects above 18 years of age were approached for the purpose. The research scholar and few volunteer selected people were walking, jogging, yoga, gym, aerobics, laughing club; and recreational sports.

The Questionnaire

To measure both internal and external motives for exercise a questionnaire was developed by Edward L. Deci and Richard M. Ryan, who are the proponents of 'Self Determination Theory (SDT)'. The questionnaire is known as 'Motives for Physical Activity Measure' (MPAM) and later revised by various scholars and experts. MPAM-R is a questionnaire intended to assess the strength of five motives for participating in physical activities such as weight lifting, aerobics, or various team sports. The five motives are: (1) Fitness, which refers to being physically active out of the desire to be physically healthy and to be strong and energetic; (2) Appearance, which refers to being physically active in order to become more physically attractive, to have defined muscles, to look better, and to achieve or maintain a desired weight; (3) Competence/Challenge, which refers to being physically active because of the desire just to improve at an activity, to meet a challenge, and to acquire new skills; (4) Social, which refers to being physically active in order to be with friends and meet new people; and (5) Enjoyment, which refers to being physically active just because it is fun, makes you happy, and is interesting, stimulating, and enjoyable. The scale has been used to predict various behavioral outcomes, such as attendance, persistence, or maintained participation in some sport or exercise activity, or to predict mental health and well-being. The different motives have been found to be associated with different outcomes.

The scale is a revision of an earlier measure by the same name, which was shorter and included only three motives. The longer version was introduced and validated by Ryan, Frederick, Lopes, Rubio, and Sheldon (1997).

This questionnaire (Appendix-A) contained 30 items divided into following five categories:

1. Interest and Enjoyment (7-items Nos. 2, 7, 11, 18, 22, 26, 29)
2. Competence (7-items Nos. 3, 4, 8, 9, 12, 14, 25)
3. Physical Appearance (6 items Nos. 5, 10, 17, 20, 24, 27)
4. Fitness (5 items Nos. 1, 13, 16, 19, 23)
5. Social contact (5 items Nos. 6, 15, 21, 28, 30)

The items are scored using a 7-point Likert scale. The two distinct types of motivations are separated. Intrinsic Motivation included interest & enjoyment; and competence and the extrinsic motivation included physical appearance and social contact. Fitness included both items on intrinsic and extrinsic motivation.

Test Administration

The survey was administered at different locations of Dharwad city, such as Karnataka University ground, Karnataka Arts and Commerce College ground, K C Park, and MVAS Yoga & Stress Management Centre) in month of March-2012. The questionnaires were administered and recorded in the morning session between 6:30 AM to 9:00 AM.

Data Transformation and Analysis

As described earlier, the questionnaire contained 30 items in all that measured either internal or external motivation. Each item was scored using a 7-point Likert scale. The scores on the items 2,7,11, 18,22,26,29 were pooled to measure interest & enjoyment; and the scores on items 3,4,8,9,12,14,25 were pooled to measure competence (both internal motivation). Similarly, the scores on items 5,10,17,20,24,27 were pooled to measure physical appearance and the scores on items 6,15, 21,28,30 were pooled to assess social contact (both external motivation). Since the fitness related items namely, 1,13,16,19 & 23 were both intrinsic and items, a close perusal of the item statements gave an insight into the nature of each statement. It was therefore decided to segregate the items that revealed intrinsic motive from extrinsic motive. Item statements 1,13, and 16 were classified as intrinsic and 19 and 13 as extrinsic. Finally all the items that assessed intrinsic motive were summed to give comprehensive idea of intrinsic motive and all the items that assessed extrinsic motive summed to give a comprehensive idea of extrinsic motive. Thus the 30 items were reduced to two comprehensive variables such as ‘Internal Motivation’ and ‘External Motivation’.

Secondly, based on some personal information sought, the following categorical variables were derived, which are furnished in table-1.

Table 1: List of Categorical (grouping) Variables Derived

Sl. No.	Basis of Categorization	Categories
1	Gender	Male and Female
2	Date of Birth	Below 40 Yrs and Above 40 Yrs
3	Marital Status	Married and Unmarried
4	Income	Low income; Middle income and High income
5	Health condition	Healthy and Un-healthy
6	Sports Participation	Sportsperson and Non-sportsperson

In the case of categorizing income groups those who earned less than Rs.30,000/- were treated as low income group; those who earned above Rs.30,000/- but below Rs.40,000/- were treated as middle income group and finally those who earned above Rs. 40,000/- were classified as high income group. Secondly, in the case of sports participation only those subjects who were above the age of 40 were taken into consideration, that is only those middle & old aged subjects were classified as sportsperson and non-sportsperson based on the fact that they were in fact sportsperson during their younger days (high school and college).

Statistical Analysis

The two dependent variables derived, namely ‘Internal Motivation’ and ‘External Motivation’, were subjected to independent samples ‘t’-tests except in the case of income groups where there were three groups. Therefore in the case of income groups one way ANOVA was used.

Data

Following the hypothesis data on motivation using motive for physical activity measure were collected. The data obtained on 30 items using seven point likert scale was than produced to two variables namely intrinsic and extrinsic motivation. Further based on additional information collected the total samples was catagaraised on various diminution as explained the in the last chapter. The intrinsic and extrinsic motivation as dependent variables were subjected to either ‘T-test or ANOVA’ depending upon number of categories made. In this chapter the results of statistical analysis with respect to each of the hypothesis are presented.

Hypothesis-1

There is no significant difference in the two forms of motivation to involve in fitness activities between men and women.

Presented in table 2 are the mean and standard deviation of intrinsic and extrinsic motivation of subjects and men and women and aftend the T ratio it may be observed that both men and women do not differ in there intrinsic and extrinsic motives to engaged in physical activities there for they stated null hypothesis was not rejected.

Table 2: Mean and Standard Deviations of Intrinsic and Extrinsic Motivation of Men and Women and Obtained t’-ratio.

From Motivation	Men	Women	Mean difference	t-ratio
Intrinsic	99.25±12.70	102.40±11.27	3.15	1.796
Extrinsic	74.17±11.08	76.03±9.54	1.86	1.225

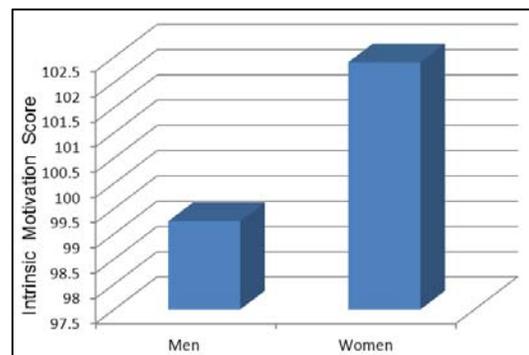


Fig 1: Intrinsic motivation scores of men and women.

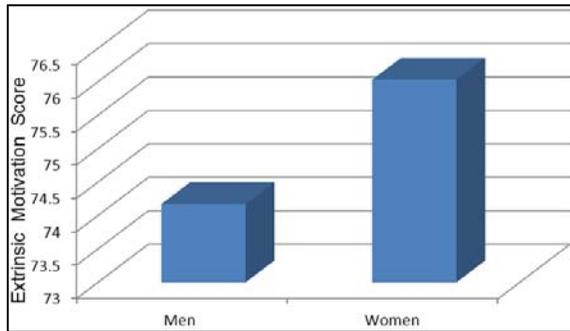


Fig 2: Extrinsic motivation scores of men and women.

Hypothesis-2

There is no significant difference in the two forms of motivation to involve in fitness activities between healthy and not-healthy individuals.

To test the second hypothesis above the sample was divided in to two groups namely healthy and not-healthy. The intrinsic and extrinsic motivation score was then subjected to 't'-test. The results of the analysis are presented in table-3.

Table 3: Mean and Standard Deviations of Intrinsic and Extrinsic Motivation of Healthy and Not-healthy Obtained t'-ratio.

From Motivation	Healthy	Not-healthy	Mean difference	t-ratio
Intrinsic	101.53±12.03	96.04±12.36	5.48	2.697*
Extrinsic	75.03±10.88	74.07±9.44	0.96	0.541

*P<α=0.05

It may be observed that healthy individuals are intrinsically more motivated than not healthy individuals and the difference between those scores is significant however in so far as extrinsic motivation is concern both healthy and not-healthy individuals do not differ each other. There for the hypothesis which stated that there is no significant difference in the two forms of motivation to involve in fitness activity between healthy and not-healthy individuals is rejected.

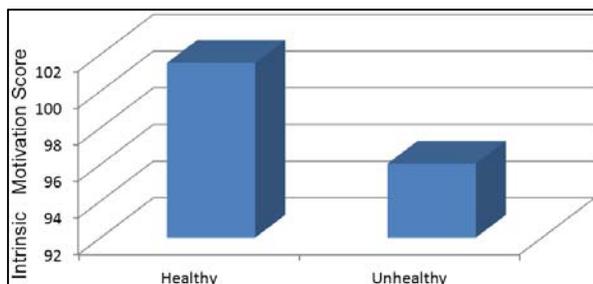


Fig 3: Intrinsic motivation scores of healthy and unhealthy.

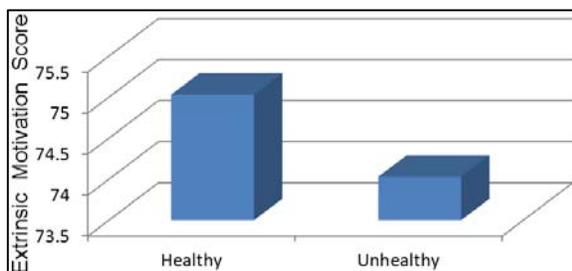


Fig 4: Extrinsic motivation scores of healthy and unhealthy.

Hypothesis-3

There is no significant difference in the two forms of motivation to involve in fitness activities between those who are below the age of 40years and those who are above the age of 40years

To test the above hypothesis the subjects were categories in two groups namely below 40 year and above 40years. The data on intrinsic and extrinsic motivation there then subjected to 't'-test. The result of 't'-test are presented in table-4.

Table 4: Mean and Standard Deviations of Intrinsic and Extrinsic Motivation of Subjects below 40 years and above 40 years and Obtained t'-ratio.

From Motivation	Below 40 Yrs	Above 40 Yrs	Mean difference	t-ratio
Intrinsic	102.41±11.20	98.28±13.01	4.31	2.481*
Extrinsic	74.37±10.20	75.28±10.98	0.91	0.627

*P<α=0.05

It may be also in observe that the individuals below the 40 years are intrinsically more motivated than the individuals of the 40 years the difference these scores is font to the significant however both younger and older age groups is did not differ as for as extrinsic motivation is concern.

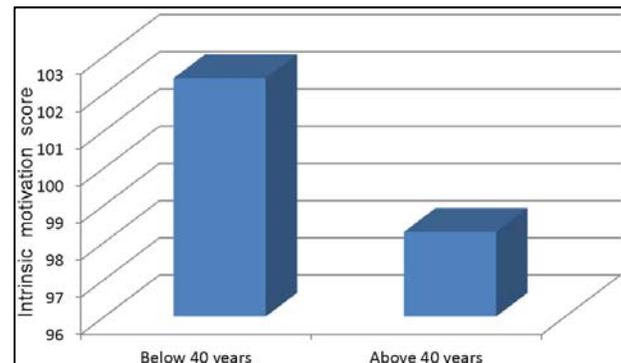


Fig 5: Intrinsic motivation scores of individuals below and above 40 years of age.

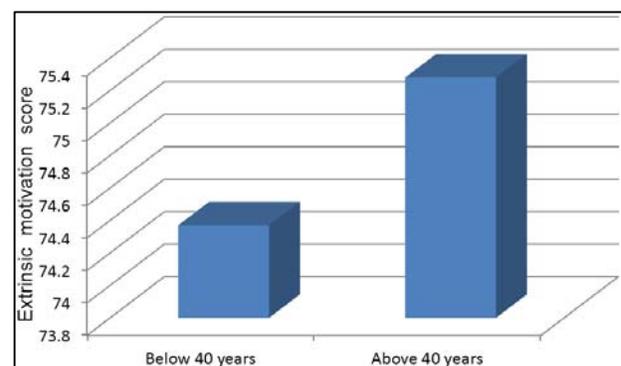


Fig 6: Extrinsic Motivation scores of individuals below and above 40 years of age.

Hypothesis-4

There is no significant difference in the two forms of motivation to involve in fitness activities among low, middle and high economic groups.

To test this a fourth hypothesis the sample was divided in to 3 groups namely low Income group, middle income group and high income group. Séance there were move then to

groups involved analysis of variance was restarted to presented in table-5 mean and standard deviation of intrinsic and extrinsic motivation of low, middle and high income group heave the high income group appear to the more intrinsically motivated than the two lower income groups. Farivasals of ANOVA tables (table-8&9) reviles that the observed difference in both internal and external motive are not significant enough.

Therefore the hypothesis which stated that there is no significant difference in two forms of motivation to involve in fitness activity among low, middle and high economic groups was not rejected.

Table-5: Mean and Standard Deviation of Intrinsic and Extrinsic Motivation of Low-, Middle- and High-income Groups

From of Motivation	Low income group N=38	Middle income group N=48	High income group N=24
Intrinsic	97.6±13.92	99.44±12.98	100.42±13.82
Extrinsic	73.76±11.39	75.94±9.82	75.04±13.43

Table 6: Source of Analysis of Variance of Internal Motivation of low, Middle and High Income Groups

Source	Sum of Squares	df	Mean Squares	F-ratio
Between	131.24	2	65.62	0.36
Within	19494.73	107	182.19	
Total	19625.96	109		

Table 7: Source of Analysis of Variance of External Motivation of low, Middle and High Income Groups

Source	Sum of Squares	df	Mean Squares	F-ratio
Between	100.35	2	50.18	0.398
Within	13482.64	107	126.01	
Total	13582.99	109		

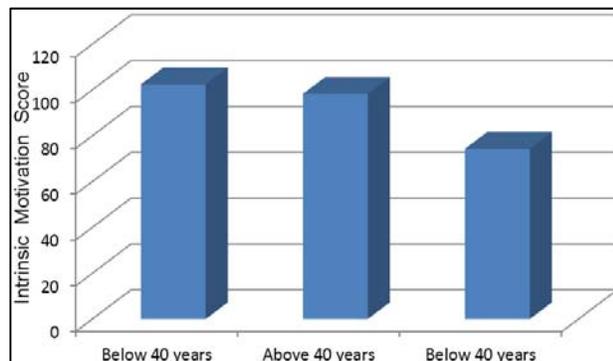


Fig 7: Intrinsic motivation scores of low income group, middle income group and high income group.

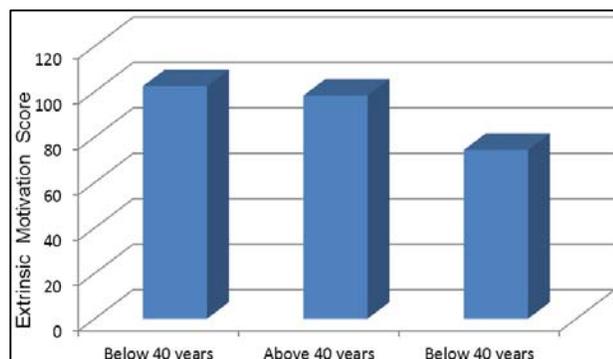


Fig 8: Extrinsic motivation scores of low income group, middle income group and high income group.

Hypothesis-5

There is no significant difference in the two forms of motivation to involve in fitness activities between those who were sportspersons and those who were not when they were young.

To test the above hypothesis subjects were above 40 years were chosen for analysis. This subjects 40 years of age were than classified in to sportsperson and non-sportsperson. The intrinsic and extrinsic motivation score were ones again subjected to ‘t’- test the results of the analysis is presented in table-8.

Table 8: Mean and Standard Deviations of Intrinsic and Extrinsic Motivations of Subjects who were Sports-persons and non-sports persons and Obtained t’-ratio.

From of Motivation	Sports-persons	Nonsports-persons	Mean difference	t-ratio
Intrinsic	98.91±12.89	97.46±13.27	1.46	0.568
Extrinsic	75.69±12.16	74.76±9.37	0.93	0.431

A close perusal of the difference between means suggest that the individuals, who were sportsperson intrinsically more motivated than those were not sportsperson. However the observed differences are not significant. Therefore the hypothesis which stated that there is no significant differences in two forms of motivation to involve in fitness activity between those who were sportsperson and those who were non-sportsperson is not rejected

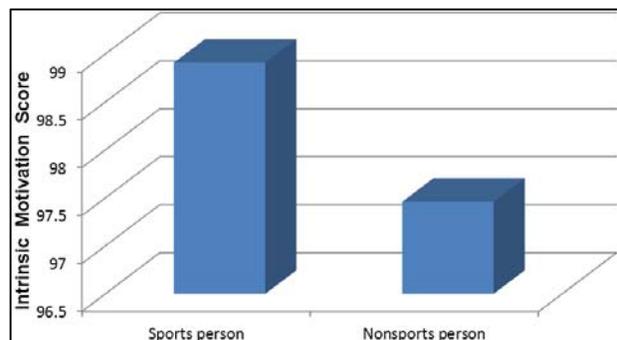


Fig 9: Intrinsic Motivation Scores of sports person and non-sports person.

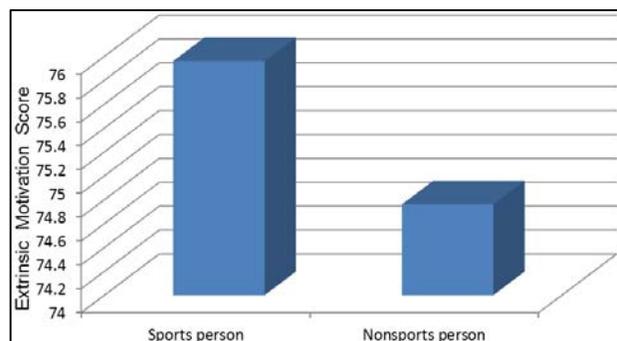


Fig 10

Hypothesis-6

There is no significant difference in the two forms of motivation to involve in fitness activities between those who are married and those who are not married.

To test the above hypothesis the sample was divided in to married and unmarried groups. Presented in table-9 are the

means and standard deviations of intrinsic and extrinsic motivation of subjects who are married and unmarried, and obtained 't'-ratio. The insignificant obtained 't'-ratio suggests that there is no difference in either extrinsic motivation or intrinsic motivation between married and unmarried individuals. Therefore the hypothesis which stated that married and unmarried individuals do not differ in the two forms of motivation is not rejected.

Table 9: Mean and Standard Deviations of Intrinsic and Extrinsic Motivations of Subjects who are Married and Unmarried, and Obtained t'-ratio

From of Motivation	Married	Unmarried	Mean difference	t-ratio
Intrinsic	100.35±12.47	100.37±12.07	0.02	0.012
Extrinsic	75.45±10.99	73.94±9.96	1.51	1.023

Of the six null hypotheses only two were rejected while the other four were not rejected. In both hypotheses which were rejected the difference in intrinsic motivation was found to be significantly higher.

Conclusion

Based on the results of the study it was concluded that the younger individuals below the age of 40 years are intrinsically motivated than the individuals above age of 40 years. Similarly healthy individuals are also intrinsically motivated than un-healthy individuals. However the age and health condition did not matter as for as external motivation was concerned. Further gender, economic condition, sports participation and marital status did not matter in the motivational levels for participation in physical activity.

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