Intrinsic Motivation of University Students in Participating in Physical Fitness Training Programs
大學生參加健身訓練課程的內發動機

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Abstract

The purpose of this study was to examine the intrinsic motivation of University students in pursuing physical fitness training programs. 224 university undergraduate students (81 males and 143 females) who participated voluntarily in fitness training courses were included in this study. Participants were asked to complete a 7-item questionnaire to find out their intrinsic motivation of participating in the fitness training programs. Ratings of the questionnaire range from 1 (strongly disagree) to 5 (strongly agree). The motivation factors were ranked according to their mean scores. It was found that "to keep fit and strong" was top of the list, followed by "to improve health" and "to improve outlook". The implications of the rank order were discussed in the paper. Factor analysis of the motivation factors showed that there were two sub-factor components: physical factor and social factor. The reliability coefficients of the factors were 0.58 and 0.83 respectively. One way ANOVA results showed that significant difference was only found between genders in relation to the social factor. Social factor was seen to be a more important motivating factor in female participants of physical fitness training programs.

摘要

本文旨在研究大學生參加健身訓練課程的內發動機。共有二百二十四名大學本科生自願參加這個研究，他們在參加課程後填寫一份有七條題目的問卷。問卷答案幅度由一（強烈反對）至五（強烈贊成）。動機因素方面以平均值去排列等級。結果顯示"保持身體強健"居於首位，跟著的是"改善健康"和"改善外表"。文中亦提及排列等級結果的含意。因子分析結果指出問卷內容有兩個次組合："體質"和"社交"。它們的信度係數分別是0.58和0.83。單向方差分析法表示"性別"和"社交"有顯著差異。"社交"被認為是女性參加健身訓練課程的一個重要內發動機。

Introduction

The health benefits of physical exercise have been well documented (Huges, 1984; Paffenbarger, 1984; Powel et al., 1986). People are more aware of the need to engage in habitual exercises of sufficient intensity and duration in reducing health risks. It is therefore important to understand the motivation of people who wish to develop life-long exercise habits.

Motivation is the driving force behind setting an outcome, reorganizing information necessary for change, and reaching an outcome (Chan, 1993). The reasons why people exercise fall in two different categories of motives – intrinsic and extrinsic. Ryan et al. (1997) considered that individuals whose participation was motivated mainly by *competence* (the desire to engage challenges and exercise and expand skills) and *enjoyment* (desire to have fun, pursue interests, be stimulated) as primarily having an intrinsic focus. Extrinsically motivated behaviours are those that are performed in order to obtain rewards or outcomes. Apart from intrinsic and extrinsic motives, Wankel and Kriesel (1985) included the social motives, such as being part of a team or being with friends. The social motives were also considered as a potential contributor to exercise enjoyment and adherence.

A number of researches have been carried out to investigate the relationship between motivation and exercise. Biddle and Bailey (1985) surveyed a group of participants who took part in a fitness class trying to find out why they participated in

the program. The findings showed that the reasons for men and women were different. Men considered health and fitness as the top motives while the women said that they took part because of the social and psychological aspects of exercise. Further examination of the data by multivariate analysis showed that women expressed greater interest in the social elements, which also enabled them to release tension.

Frederick and Ryan (1993) conducted a study involving 376 adults to examine motivational differences between two groups: persons whose primary activity was an individual sport and those whose primary activity was fitness or exercise oriented. The findings showed that people who participated in individual sports were motivated more by interest and enjoyment while those involved in fitness activities were driven to participate for motives regarding body-related motives.

Surveys on the participation in sports by Hong Kong people have been carried out by the Hong Kong Sports Development Board in recent years (Sports Participation Surveys, 1996-8). The results indicate an upward trend in the number of people who had participated in at least one sports activity from 1996 to 1998. In 1996, there was an average of 40% of Hong Kong people who had participated in at least one sporting activity. This was increased to 50% in 1997 and then 54% in 1998. There is a growing concern of young people nowadays to engage in healthy exercises in order to keep fit. Participation in exercise programs has become a very popular leisure activity. Fitness training venues provided by public agencies and privately run commercial health clubs have mushroomed throughout Hong Kong providing easy access to people who want to have a workout in their leisure time.

The purpose of this study was to examine the intrinsic motivation of University students in pursuing physical fitness training programs.

Method

Participants

Fitness training courses are organized for the undergraduates of the Hong Kong Baptist University at the beginning of each semester. The courses are free of charge and aim at providing the participants basic principles and techniques of exercise followed by a practical session involving the correct use of the fitness equipment. Participants who have successfully completed the program will be awarded a Fitness Room User-card, which allows them to use the fitness room to pursue physical fitness training programs at their own leisure hours.

A total of 239 university undergraduate students who enrolled voluntarily in fitness training courses in February 1999 were asked to participate in the survey. 224 valid questionnaires were used for data analysis (81 males and 143 females). The mean age of the participants was 20.92 years (S.D.= 1.88) and the age range was from 20 to 30.

Data Collection

The questionnaire consisted of 8 items. Item 1 to 7 were questions on personal data and comments on the fitness training course. Item 8 listed 7 participation intrinsic motives based on past studies [Frederick & Ryan (1993); Ryan et al. (1997)]. The participants were required to indicate their preference with a 5-point Likert scale ranging from 5 (strongly agree) to 1 (strongly disagree) for the 7 motives.

Results

Rank order of the 7 motives is shown in Table 1.

Table 1. Rank Order of Motives for Fitness Training Program

Motive Variable	Mean (SD)	Rank
To keep fit and strong	4.31 (.63)	1
To improve health	4.21 (.61)	2
To improve personal outlook	3.53 (.92)	3
To lose weight	3.38 (1.25)	4
To accompany friends to take part in fitness training	3.20 (1.12)	5
To meet friends	2.52 (.93)	6
Do not like to play other sports and games	2.17 (1.00)	7

The motives " to keep fit and strong" and "to improve health" are items topping the list. They are followed by motives in descending order: "to improve personal outlook", "to lose weight", "to accompany friends", "to meet friends" and lastly "do not like to play other sports and games". The rankings demonstrate the importance of the various motives that the undergraduates have in fitness training programs. The body-related motives are obviously major reasons of the participants, reinforcing the desire to improve their physical well being. The results provide useful information and reference to programmers who are responsible for planning fitness training programs.

Factor analyses using principal component extractions and varimax rotations are used to explore the possible factors among the motive items suggested. Eigen value equal or greater than 1 and percentage of variance are the criteria used to decide on the number of factors to be extracted. An initial result showing

two factors with eigen values 2.02 and 1.69 explaining respectively 28.78% and 24.14 % of variance (total variance explained 52. 92%) is reached. The communality of motive "do not like to play other sports and games) is unsatisfactorily low (.31). After removing the above item and redoing the factor analysis, the results show two major factors, namely the Physical Factor and the Social Factor, explaining 59.25% of the total variance, as shown in Table 2.

Table 2. A Factor Analysis of the Motives using Principal Component Analysis and Varimax Rotation.

	Physical Factor	Social Factor
To improve health	.91	
To keep fit and strong	.91	
To meet friends		.61
To lose weight		.67
To accompany friends to take part in fitness training		.69
To improve personal outlook		.68
Eigen value	1.54	2.02
% variance explained	25.67%	33.58%

The reliability coefficients of the Physical Factor and Social factor are 0.58 and 0.83 respectively.

Means comparisons are made among the personal variables of the participants. One variable of particular interest is the gender of the participants in relation to the motives. Summaries of comparison of the mean factor scores of male and female participants are shown in Tables 3 and 4.

Table 3. Summary of ANOVA by Gender for Physical Factor

	Df	SS	MS	F	p
Between group	1	.04	.04	.04	.85
Within group	218	218.22	1.00		
Total	219	216.26			

Table 4. Summary of ANOVA by Gender for Social Factor

Source	Df	SS	MS	F	p
Between group	1	8.87	8.87	9.63	.00*
Within group	218	200.90	.92		
Total	219	209.77			

* $p<0.05$

Table 3 shows that there is no significant difference in the Physical Factor between gender. However, as far as the Social Factor is concerned (Table 4), male and female participants differ significantly. The corresponding higher mean factor score for females relative to males (.16 and - .26) shows that females have a stronger social motive than males when they decide to join fitness training programs. This observation will be useful to people who are responsible for designing fitness training programs in future. If more female participants are to be attracted to the program, the social factor should be seriously considered and carefully planned.

Discussion and Conclusion

Fitness activities continue to be a very popular exercise program for the young people nowadays. In recent years, fitness facilities have been included in most of the games halls and recreation centres run by the municipal councils. These venues provided opportunity and easy access to the public to pursue fitness training as a long-term exercise program. Apart from the public facilities, the growth of the fitness industry also provides a better environment with well equipped facilities for regular fitness training.

Fitness training courses conducted at the Wai Hang Sports Centre of the Hong Kong Baptist University are often over-subscribed. The students' participation in the program is voluntary. The findings in this study will help the organizers understand the interests of the students in joining the program.

The motives included in the questionnaire were mainly intrinsic. The findings indicated that the motive "to keep fit and strong" ranked top of the list, demonstrating the strong expectation of the students when they enrolled in the training program. The factor analysis results also showed that the motives could further be divided into two factors – the Physical Factor and the Social Factor. The Physical Factors were "to keep fit and strong" and "to improve health". The perceived health benefits had greatly affected their choice and reasons for exercise. These findings were similar to those reported by Frederick and Ryan (1993).

The Social Factor included the motives "to improve personal outlook", "to accompany friends" and "to lose weight". The last two motives "to accompany friends" and "to meet friends" had strong social orientation. However, grouping the motives "to improve personal outlook" and "to lose weight" under Social Factors may be arguable as they are often seen as body-related motives instead of social motives (Frederick & Ryan, 1993). It is clear that one of the benefits of sport and exercise activities is that one can bring one into social interactions. The opportunity for

social contact can be an added feature of such activities and may be one goal of participation (Ryan et al., 1997). As the majority of the respondents were freshmen, it is understandable that these two motives may have their social incentives. It is an ongoing trend among young people to become fit and keep a healthy personal outlook in order to be acceptable socially within their peer groups. These incentives link up well with the other two social motives "to improve personal outlook" and "to accompany friends".

One-way ANOVA results showed that there is significant gender difference in the Social Factor. The female participants considered that the social experiences were the motivating factors in participating the fitness training programs. This finding again concurs with those of Biddle and Bailey (1985) who reported that women expressed greater interest in the social motives than men did. The results of the present study suggest that when planning future fitness training programs, it will be necessary to pay attention to improve the social conditions and provide a better environment to the female participants, particularly if the organizers wish to attract more female participants to the program.

This study focuses on the intrinsic motivation of the students in participating in physical fitness training programs and therefore has not included the extrinsic motives. It will be useful if further studies can be conducted to investigate the extrinsic motivation of the participants and make comparison to the intrinsic and social motives.

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