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UNIVERSITY STUDENTS' ATTITUDE, SELF-EFFICACY AND MOTIVATION REGARDING LEISURE TIME PHYSICAL PARTICIPATION

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Abstract: The purpose of this study is to identify the influences of attitude, self-efficacy, and motivation on leisure time physical activity participation in students at local public universities. The theories of planned behaviour and self-efficacy were used as a theoretical framework. The study sample is comprised of 551 males and 801 females who were selected by means of random cluster sampling. Questionnaires were utilised to collect data. The results of the study showed that there were positive correlations between leisure attitude, motivation, and self-efficacy and leisure time physical activity participation among undergraduate students. The results also revealed that motivation and self-efficacy were the best predictors of leisure time physical activity participation. This study suggests that, in the effort to encourage the student's leisure time physical activity participation and involvement, university management should plan and organise programmes to develop positive attitudes among students, increasing their self-efficacy and motivation level for physical activity participation.

Keywords: attitude, self-efficacy, motivation, leisure time physical activity, university students

Abstrak: Tujuan kajian ini adalah untuk mengenal pasti sikap, efikasi-kendiri dan motivasi terhadap penyertaan aktiviti fizikal masa senggang dalam kalangan pelajar di universiti awam tempatan. Teori tingkah laku terancang dan efikasi-kendiri telah digunakan sebagai kerangka teoritikal kajian. Persampelan kajian mengandungi 551 lelaki dan 801 perempuan yang telah dipilih dengan menggunakan kaedah pensampelan rambang berkelompok. Soal selidik telah digunakan untuk memungut data. Keputusan kajian menunjukkan bahawa terdapat hubungan yang positif antara sikap, motivasi dan efikasi-kendiri terhadap masa senggang dengan penyertaan aktiviti fizikal masa senggang. Hasil kajian ini juga membuktikan bahawa motivasi dan efikasi-kendiri merupakan pemboleh ubah peramal yang terbaik terhadap penyertaan aktiviti fizikal masa senggang. Kajian ini mengesyorkan bahawa dalam usaha untuk menggalakkan pelajar-pelajar menyertai dan melibatkan diri dalam aktiviti fizikal masa senggang, pihak pengurusan universiti hendaklah merancang dan menyusun program ke arah membangunkan sikap yang positif dalam kalangan pelajar di samping meningkatkan tahap efikasi-kendiri dan motivasi terhadap penyertaan dalam aktiviti fizikal.

Kata kunci: sikap, efikasi-kendiri, motivasi, aktiviti fizikal masa senggang, pelajar universiti

INTRODUCTION

Involvement in physical activity as one dimension of leisure has become an area of growing interest in recent years (Henderson & Ainsworth, 2001). In relation to leisure behaviour, there is a growing interest in the identification of the determinants of participation in leisure activity (Chih Mou-Hsieh, 1998; Iso-Ahola & Weissinger, 1990; Ragheb, 1980; Ragheb & Tate, 1993; Watson, 1996). For example, some empirical studies show correlating relationships among the pertinent variables examined in this study. However, past leisure behaviour research has been concerned with a single variable, relationships between two variables, or the correlation of leisure behaviour variables within demographic variables. There has been limited effort to investigate the interrelationship between leisure attitudes, motivation, self-efficacy, satisfaction, participation, and a set of social concepts (Chih Mou Hsieh, 1998; Ragheb & Tate, 1993; Watson, 1996). For example, Ragheb (1980) investigated the interrelationships among leisure participation, satisfaction, and attitude. Kaufman (1988) reported that leisure participation and leisure satisfaction had a significant positive relationship. Moreover, Iso-Ahola and Weissinger (1990) found negative relationships between boredom and leisure participation, motivation, attitude, and satisfaction.

Furthermore, Dzewaltowski (1989) reported that there were positive relationships between exercise behaviour and intention, attitude and self-efficacy in terms of exercise behaviour. Dzewaltowski reported that the correlation coefficients between exercise behaviour and attitude and self-efficacy were .18 and .34 respectively. Thus, the findings from previous studies (see for example, Chih Mou Hsieh, 1998; Ragheb, 1980; Crandall & Slivken, 1980; Watson, 1996) showed a low relationship between attitude and physical activity participation. Additionally, research also showed that the attitude factor predicted leisure physical activity participation indirectly (Ajzen, 1985; Ajzen & Fishbein, 1980; Iso-Ahola, 1980). In line with this result, motivation was found to be the most important contributing factor in predicting leisure behaviour related to physical activity participation (Davis et al. 1984; Chih Mou Hsieh, 1998; Hagger, Chatzisarantis, & Biddle, 2002; Iso-Ahola, 1980; Ragheb, 1980, Ragheb & Tate, 1993; Watson, 1996). The research findings by Feltz (1982, 1988), McAuley (1985, 1992, 1993), McAuley and Courneya (1993), Dishman (2001), Hagger et al. (2002), and Dzewaltowski, Noble and Shaw (1990) showed that there was a moderate correlation between self-efficacy and physical activity participation among both young and older people. However, Yordy and Lent (1993), and Armitage and Conner (1999) demonstrated that self-efficacy was an important predictor of physical activity. According to Brawley and Martin (1995), self-efficacy was able to contribute between 3% to 25% of variance in physical activity and exercise behaviour.

In relation to university students, although there were a large number of students currently attending colleges and universities, their leisure physical activity participation cannot continue to be virtually ignored by researchers. Research into this facet of physical recreation activity is important for leisure and recreation professionals in order to better understand participants' leisure behaviour. If the interests of society are to be served, colleges and universities must help students recognize the implications of physical activity participation and its relationship to the quality of their lives regardless of their sex, age, marital, or parental status (Attarian, 1990). Little and Guse (1988) suggest that, by emphasising the on-campus recreational needs of students, the development and operation of specialised facilities and services has become an accepted part of the administrative structure in higher education in America and around the world.

Moreover, knowledge gained from this kind of behavioural research will eventually assist practitioners in their work. It is vital that leisure practitioners know what motivates participants to engage in their services, programmes, and activities. This information is also vital for identifying participants' needs and wants. For leisure researchers, the development of a behavioural model or theory can help to organise knowledge and experience, as well as stimulate and guide future research. It also can help in the development of better future explanations and theories (Watson, 1996).

However, little research about the determinant factors related to leisure time physical activity participation among local university students has been conducted. The physical activity participation of university students has often been overlooked because so much attention has centred on the negative image of university students who spend their leisure time watching television or socialising (Watson, 1996). Even though this behaviour occurs on a large number of university campuses, many students do participate in physical activity, perceiving the positive health and fitness benefits as well as the social and psychological benefits of constructive leisure time (Biddle, Sallis & Cavill, 1998; Iso-Ahola, 1980; Lim Khong Chiu, 2002, 2004).

This study was designed to examine the relationships between leisure attitude, motivation, self-efficacy, and leisure physical activity participation in undergraduate students at local public universities. In an attempt to identify and examine the pattern of influence of the psychological antecedents to leisure physical activity behaviour, the theories of planned behaviour (Ajzen, 1991) and self-efficacy (Bandura, 1986, 1997) were used as the theoretical base. These theories are useful for predicting physical activities participation and exercise intention.

Problem and Hypotheses

The following research questions are formulated in an effort to determine if significant relationships exist between leisure attitude, motivation for physical activity, self-efficacy for physical activity, and leisure physical activity participation:

1. Are there relationships between leisure attitude, motivation, self-efficacy, and leisure physical activity participation (frequency and magnitude) among local university students?
2. Do leisure attitude, motivation, and self-efficacy contribute significantly to leisure physical activity participation (frequency and magnitude) among local university students?

Based on the purpose of the study, the following hypotheses were examined in relation to undergraduate students at local universities:

1. Leisure attitude, motivation, and self-efficacy for physical activity correlate positively with frequency and magnitude of leisure physical activity participation.
2. Leisure attitude, motivation, and self-efficacy for physical activity significantly explain the variance in frequency and magnitude of leisure physical activity participation.

METHOD

Samples

A cluster-stratified random sampling method was applied to select a sample from the four selected local public universities. Samples were comprised of 1352 undergraduates, 40.8% (n = 551) males and 59.2% (n = 801) females. The ethnic populations included in the study were 45% (n = 608) Malay, 34% (n = 460) Chinese, 8.1% (n = 109) Indian, and 12.9% (n = 175) Sabah and Indigenous Sarawak. The subjects were evenly divided between the arts 50.1% (n = 677) and science streams 49.9% (n = 675), with 22.3% (n = 302) in the first year, 27% (365) in the second year, 35.5% (n = 480) in the third year, and 15.2% (n = 205) in the fourth year. The mean age of the samples was 21.5 (range 19 to 24), and there were no age differences between the groups.

Instruments

(a) Background information questions

The instruments consisted of (a) background information questions such as age, sex, ethnic group, academic stream, and year of education; (b) a leisure attitude scale; (c) a motivation for physical activity measure; (d) a physical activity self-efficacy scale; and (e) a physical activity participation scale.

(b) Leisure attitude scale

In this study, leisure attitudes were operationalised using Ragheb and Beard's (1982) Leisure Attitude Scale. Only two dimensions of attitude, the cognitive and affective components, were measured. The measured variables for the cognitive and affective components are based on the sum of the total scores of each component of the scales of 12 items. The respondents were asked to rate each item on a five point Likert-type scale with the responses ranging from strongly not true to strongly true. For their Leisure Attitude Scale development, Ragheb and Beards consulted thirty-one experts in the field who provided evidence of the validity of the instrument. Furthermore, a study with 1042 subjects revealed that the Cronbach's alpha reliabilities for subscale were as follows: cognitive, $\alpha = .91$; and affective, $\alpha = .93$.

(c) The motivation for physical activity measure

The Motivation for Physical Activity Measure (MPAM), developed by Frederick and Ryan (1993), was utilised to collect data. The MPAM consists of 23 items measuring participation motivation in the domain of physical activity. Samples were asked to indicate on a five point Likert-type scale the degree to which each motive was personally true for them with respect to their primary physical activity. The MPAM assessed three types of reasons for engaging in physical activity: intrinsic (6 items), competence (7 items), and body-related motivation (10 items). The intrinsic motivation relates to the fun and enjoyment of the activity; the competence motivation relates to skill development, competition, and challenge; and the body-related motivation relates to desire to improve physical appearance and fitness (Frederick & Ryan, 1993). Frederick and Ryan (1993) provided evidence for both the reliability and validity of these factors, showing a clear, three-factor structure to the scale's items and internal consistency, with Cronbach's alpha values was above .87 for each subscale.

(d) Physical activity self-efficacy scale

The physical activity self-efficacy items were developed in accordance with Bandura's (1982, 1986) definition of self-efficacy as an individual's belief that he or she has the ability to perform at a specified level on a certain task. Respondents answered questions for 20 items adapted from the Self-efficacy for Exercise Scale (Benisovich et al., 1998) and Leisure Constraints Questionnaire (Alexandris & Carrol, 1997) on a five point Likert-type scale with items that ranged from 1 = very unconfident to 5 = very confident. Measurement of physical activity self-efficacy for this study focused on students' perception of their confidence to overcome various constraints in participating in leisure physical activity at least three times per week. Based on Terry and O'Leary's (1995) suggestion, 9 items were developed to measure internal aspects of self-efficacy, and 11 items portrayed situations that focused on external aspects of self-efficacy. An example of an internal factor is an individual's perceived confidence in engaging in physical activity, and an example of an influential external factor is a barrier, like "bad weather." Benisovich et al. (1998) reported adequate internal consistency values for self-efficacy for the Exercise Scale were .77 and .87 between each subscale. Likewise, for the Leisure Constraints Questionnaire the internal consistency value was .85 (Alexandris & Carroll, 1997).

(e) Leisure physical activity participation scale

In this study, leisure time physical activity participation is defined as both the frequency of participation in certain physical activities and the magnitude of leisure time physical activity participation. The variables were measured by adopting, modifying, and reducing the Leisure Participation Scale developed by Ragheb and Griffith (1982), Chih Mou Hsieh (1998), and Ragheb and Tate (1993). The frequency of participation in physical activity was operationalised as the number of times an individual participated in his/her preferred leisure time physical activities during the last six months. Respondents were asked to rate how often they participated in leisure time physical activity. The measured variable of frequency of participation was calculated by adding the total score from those selected from the 36 activities listed. The magnitude of leisure time physical participation was evaluated using 8 items adapted from Ragheb and Tate (1993). Examples of the items are "I do leisure physical activity frequently," and "I buy goods and equipment to use in my leisure physical activity as my income allows." The internal consistency Cronbach's alpha value for the scale was .89 (Ragheb & Tate, 1993). The measured variable for the magnitude of participation was based on the sum total of the 8 items. The respondents were asked to rate each item on a five point Likert-type scale as to how important the activities were with respect to his/her leisure behaviour, where the responses ranged from strongly untrue to strongly true.

Procedure

Permission to collect data from undergraduate students was received from selected university administrators. Two trained research assistants in classroom conditions administered questionnaires during normal lecture time. The subjects were asked to complete a survey questionnaire. The subjects were informed of the purpose of the study and general instructions were provided. Help was offered when needed, and responses were anonymous.

Data Analyses

A pilot test of the instruments was administered to 105 undergraduates at a local public university. The aim of this pilot study was to ensure that the language used and the scales adopted were appropriate. The Leisure Attitude Scale, Motivation for Physical Activity Measure, Self-Efficacy for Physical Activity Scale, and Leisure Participation Scale were translated into Malay. The deeper meanings of certain questions may not have come across accurately in the Malay version as compared with the English version. Therefore, the procedures of translation, back-to-back translation, discussion, and review were used (Brislin, 1970). The instruments were then validated and tested with the sample from the local university for reliability by using factor analysis and Cronbach's alpha. The results indicate that the measures were found to be psychometrically sound (Lim Khong Chiu, 2002, 2004).

Multivariate analyses were utilised to examine possible relationships between the research variables. The Pearson correlation statistic was utilised to test the first hypothesis on interrelationships among independent variables and dependent variables. To test the second hypothesis, stepwise multiple regression analyses were performed. All analyses of data were performed with the SPSS/PC 12.0 statistical software package and the alpha level was set at $p < .05$.

RESULTS

The results of the Pearson correlation analyses in Table 1 revealed that the correlation coefficients among leisure attitude, motivation, self-efficacy, frequency, and magnitude of leisure physical activity participation of undergraduates were found to be positively significant. The values of the correlation coefficients were within the range of $r = .146$ and $r = .667$, $p < .01$. The correlation between leisure attitude towards physical activity and frequency of participation in leisure physical activity was found to be the lowest, whereas the correlation between motivation for physical activity and magnitude of participation in leisure physical activity was the highest. Therefore, the first

hypothesis, which stated leisure attitude, motivation, and self-efficacy for physical activity correlate positively with frequency and magnitude of leisure time physical activity participation of undergraduates, was accepted by the data.

Table 1. Correlation coefficients among leisure attitude, motivation, self-Efficacy, frequency and magnitude of leisure physical activity participation

Variables	Attitude	Motivation	Self-Efficacy	Frequency	Magnitude
Attitude	1.000				
Motivation	.667**	1.000			
Self-Efficacy	.223**	.374**	1.000		
Frequency	.147**	.278**	.256**	1.000	
Magnitude	.368**	.501**	.447**	.435**	1.000

Note: * $p < .05$, ** $p < .01$, (N=1352)

Stepwise multiple regression analyses were conducted to determine the contribution of each independent variables (leisure attitude, motivation, and self-efficacy for physical activity) on the dependent variables (frequency and magnitude of leisure physical activity participation). The results of stepwise regression in Table 2 show that self-efficacy and motivation for physical activity were found to be significant predictors of the frequency of leisure physical activity participation. [$F(2, 1349) = 78.445, p = .00001$]. Examination of the beta weight shows that motivation for physical activity was the most important contributor [$\beta = .212, t(1352) = 7.642, p = .001$] to frequent participation in leisure physical activity. However, motivation and self-efficacy for physical activity jointly explained 10.4% ($R^2 = .104$) of the variance in frequency participation in leisure physical activity. With these findings, the second hypothesis of the research was partially supported by the data.

Table 2. Stepwise multiple regression analysis: attitude, motivation, and self-efficacy on frequency of leisure time physical activity participation.

Variables	Beta	T	P
Motivation	.212	7.642*	.001
Self-Efficacy	.176	6.341*	.001
Attitude	-.062	-1.792	.073

Note: * $p < .05$, $R = .323, R^2 = .104$, Adjusted $R^2 = .103$, Std. error of the estimate = .214, $F = 78.445, p = .0001, (N = 1352)$

The stepwise multiple regression results in Table 3 show that three variables, namely motivation for physical activity, self-efficacy for physical activity, and leisure attitude towards physical activity were found to be significant predictors of the magnitude of leisure physical activity participation [$F(3, 1348) = 223.880, p = .0001$]. The results also reveal that leisure attitude, self-efficacy, and

motivation for physical activity significantly explained 33.3% of the variance in magnitude of leisure physical activity participation ($R^2 = .333$). The regression coefficients indicate that students' motivation for physical activity had the highest contribution to the total explanatory power of the model with a standardised beta coefficient of .338, [$t(1352) = 10.752, p = .001$]. The second and third highest contributions came from physical activity self-efficacy [$\beta = .304, t(1352) = 12.644, p = .001$], and leisure attitude towards physical activity [$\beta = .075, t(1352) = 2.495, p = .001$]. Therefore, the results supported the second hypothesis of the study.

Table 3. Stepwise multiple regression analysis: attitude, motivation, and self-efficacy on magnitude of leisure physical activity participation.

Variables	Beta	T	p
Motivation	.338	10.752*	.001
Self-efficacy	.304	12.644*	.001
Attitude	.075	2.495*	.013

Note: * $p < .05, R = .577, R^2 = .333, \text{Adjusted } R^2 = .331, \text{Std. error of the estimate} = .676, F = 223.880, p = .0001, (N=1352)$

DISCUSSION AND CONCLUSION

The current study was based on factors that influence individuals' participation in leisure physical activity. It was hypothesised that leisure attitude towards physical activity, motivation, and self-efficacy for physical activity correlate positively with the leisure physical activity participation of undergraduates at local universities. Based on the data, the results revealed that the correlation coefficients of all the variables were significantly greater than zero; therefore, the hypotheses proposed for these variables were accepted. The data provided support for the hypothesised relationships between each of the independent variables and leisure physical activity participation. The findings indicated that a positive leisure attitude towards physical activity, high self-efficacy, and motivation for physical activity would likely increase the rate of participation in leisure physical activity among undergraduate students. In other words, the higher their belief in the self-efficacy of physical activity, the more frequent was their participation in leisure physical activity. Likewise, the higher the perception of positive attitude towards physical attitude, the more frequent was the participation in leisure physical activities among undergraduates at local universities.

The relationships found in the current study correspond with findings by Ragheb (1980), Feltz (1982, 1988) and McAuley (1985, 1988). However, the positive correlation between self-efficacy and leisure physical activity participation was

more consistent compared with the correlation between attitude and participation in physical activity. In relation to the above findings, Crandall and Slivken (1980) stated that the link between attitude and behaviour is often very weak, and that there may be situational restraints or competing attitudes that cause the individual not to act on every attitude.

The analysis supported hypothesis 2, that all variables significantly explained the variance in leisure physical activity participation. Motivation for physical activity was found to be the largest contributor to the frequency and magnitude of participation in leisure physical activity among undergraduates at local universities. Based on these findings, motivation should be viewed as an important determinant for behaviour. Crandall (1980) stated that needs and motivation can be treated as forces that cause people to seek certain behaviours. They can also be the result of leisure participation. This result is also consistent with findings from Ragheb and Tate (1993), Chih Mou Hsieh (1998) and Watson (1996), which revealed that leisure motivation had a direct causal influence on leisure participation. Furthermore, the result of the current study indicates that an undergraduate student's higher belief in his/her self-efficacy for physical activity influences his/her participation in leisure physical activity. This supports the findings of other studies that found self-efficacy to be a major instigating force in both forming intentions to exercise and in maintaining the practice for an extended period of time (Dzewaltowski, Noble, & Shaw, 1990; McAuley, 1992, 1993; Feltz, 1988).

The results obtained from this study were consistent with Fishbein and Ajzen's (1975) reasoned action theory, Ajzen's (1985, 1991) planned behaviour theory, Bandura's (1982, 1986) self-efficacy theory, and previous findings obtained by Crandall and Slivken (1980), Iso-Ahola and Weissinger (1990), Hagger et al. (2001, 2002), and Dzewaltowski et al. (1990). In this investigation, the previous findings tended to support the notion of attitude-behaviour consistency with the intervening of motivation for physical activity. Because, as Fishbein and Ajzen (1975) indicate, attitudes are general in nature and therefore not good predictors of a specific behaviour, predictions should be made based on intention. Intention refers to an individual's purpose for participation in one activity or another. Intention is similar to motivation. This could be attributed to the nature of leisure characteristics such as an activity being fun, enjoyable, and pleasurable. Likewise, Bandura (1982, 1986) believed that self-efficacy should reflect a person's evaluation of his/her confidence in performing a given behaviour in the face of salient barriers and facilitating conditions. According to Bandura, if someone has requisite skills and sufficient motivation, then the major determinant of his or her performance is self-efficacy. Self-efficacy alone is not enough to be successful – the person must also want to succeed and have the ability to succeed (Weinberg & Gould, 1995).

The greatest contribution of the present study is the demonstration of interpretable patterns of physical activity participation among local university students. This information could be useful in developing interventions designed to improve the strength and quality of physical activities, sports programmes, and services. Therefore, these results have implications for leadership in sport administration and management, particularly with respect to effort, persistence, and commitment to organising physical activities and sports programmes on campus. For example, the present study can help university administrators consider how their programmes and services can create opportunities and experiences that meet students' needs and enrich their lifestyle. Furthermore, the primary contribution of leisure physical activity participation is not only the frequency and the awareness of engaging in those activities, but, above all, the benefits and satisfaction obtained by participation. Therefore, leisure practitioners must design, plan, and offer services that contribute not only to the increased rate of participation, but also to the fulfilment of leisure satisfaction and psychological well-being of undergraduate students.

However, the limitations of this study need to be considered. Because the study was carried out in a university setting, it was limited to university students. Thus, the results cannot be generalised to other settings. Additionally, the leisure participation scale utilised in this study required that the samples accurately remember their physical activity over the past weeks.

Therefore, several directions for future research could advance both the theory and the practice in this area. The present study should be replicated using students from other institutions (e.g., schools, colleges and polytechnics), as well as other population samples (e.g., older adults, working class individuals). Additionally, future research should explore additional variables in participating physical activity, as have been determined by theory and previous empirical research. It is also recommended that the leisure participation in physical activity be examined in relation to other age groups, different ethnic groups, types of physical activities, and other psychological variables such as goal achievement, personality, and exercise adherence. In addition, it is suggested that a modified measurement scales to be used to obtain qualitative data that may explain individuals' leisure attitude, motivation, self-efficacy, and participation in leisure time physical activity.

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