

## **Motivation for Physical Activity among Preadolescent Malay Students in Kelantan, Malaysia**

**Yee Cheng Kueh<sup>1\*</sup>, Nurzulaikha Abdullah<sup>1</sup>, Ngien Siong Chin<sup>2</sup>, Tony Morris<sup>3</sup> and Garry Kuan<sup>4</sup>**

<sup>1</sup>*Unit of Biostatistics and Research Methodology, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia*

<sup>2</sup>*Department of Physical Education and Health, Institute of Teacher Education, Batu Lintang Campus, 93200 Kuching, Sarawak, Malaysia*

<sup>3</sup>*Institute of Health and Sport, Victoria University, Melbourne VIC 8001, Australia*

<sup>4</sup>*Exercise and Sports Science, School of Health Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia*

### **ABSTRACT**

The purpose of the study was to determine whether there were significant mean differences of motives for participation in physical activity between male and female school students and whether there was a correlation between motives for participation in physical activity and amount of physical activity per week period among preadolescent students in Kelantan, Malaysia. A cross-sectional study was conducted in a primary school in Kelantan. We invited students aged from 10 to 11 years old to fill in the Malay version of the Physical Activity and Leisure Motivation Scale for youth (PALMS-Y-M). Participants completed a demographic survey and the measure of their motives to participate in physical activity. The PALMS-Y-M consisted of 28 items measuring motives of individuals for participation in physical activity. A total of 253 preadolescent students participated in this study. After excluding missing data, there were 204 usable sets of data for subsequent analysis. The

majority of the respondents were female (56.4%). All of the participants were Malay. The results of the study showed that males and females only exhibited a significant difference in motives for participation in physical activity in terms of competition ( $p = 0.001$ ). There were significant correlations between four PALMS-Y-M motives (e.g., competition, affiliation, psychological, appearance) and total hours of physical

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*E-mail addresses:*

yckueh@usm.my (Yee Cheng Kueh)

ngahpc@yahoo.com (Nurzulaikha Abdullah)

ngiensiong@gmail.com (Ngien Siong Chin)

Tony.Morris@vu.edu.au (Tony Morris)

garry@usm.my (Garry Kuan)

\* Corresponding author

activity per week. Motives for participation in physical activity play an important role in enhancing frequency of physical activity among primary school students. Thus, it is crucial to motivate preadolescents to engage in physical activity as part of a healthy lifestyle.

*Keywords:* Malay, motivation, PALMS, physical activity, preadolescent

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## INTRODUCTION

Preadolescents nowadays experience various kinds of health-related problems because of avoidance of sound management of a healthy lifestyle. In particular increasing numbers of preadolescents does not undertake enough exercise to promote health in the long term, which contributes to the growing number of illnesses that is experienced at a young age (McManus et al., 2008). Preadolescent is defined as people ages 11 to 14 (American Academy of Pediatrics [AAP], 2012). Thus, it is increasingly crucial to motivate preadolescent to engage in a healthy lifestyle by participating in various physical activities.

Physical activity has been associated with psychological benefits in young people by improving their control over symptoms of anxiety and depression (Frederick & Ryan, 1993). Similarly, participation in physical activity can assist in the social development of young people by providing opportunities for self-expression, building self-confidence, social interaction, and integration (Frederick, & Ryan, 1993; Molanorouzi et al., 2014). It had also been suggested that physically active

young people are more willing and open to adopt other healthy behaviours, such as avoidance of tobacco, alcohol, and drugs (Malina, 2001). Researchers have demonstrated an association of avoidance of these addictive behaviours with higher academic performance at school (World Health Organisation [WHO], 2015).

The WHO (2002) reported that physical inactivity is one of the ten leading factors in death worldwide. It was reported that inactive lifestyle was estimated to cause two million deaths per year and it has become an increasing concern (WHO, 2002). According to WHO (2002), a physically inactive lifestyle is also dangerous to preadolescents' health. However, preadolescents nowadays tend to choose activities, such as playing computer games in a closed room, rather than enjoying outdoor activities, such as playing in a playground. Therefore, it is increasingly crucial for preadolescents to start engaging with the physically active lifestyle at an early age, in order to reduce illness from physical inactivity.

Motivation is an important factor that stimulates and maintains individuals' participation in physical activities. Motivation can be defined as the act, or providing with a reason to act in a certain way (Simpkins et al., 2005). Nevid (2013) suggested that the term motivation referred to "factors that activate, direct, and sustain goal-directed behavior. Motives are the "whys" of behavior - the needs or wants that drive behavior and explain why we do what we do. We do not actually observe a motive; rather, we infer that one exists based

on the behavior we observe” (Nevid, 2013, p. 278). Therefore, motivation is important to help individuals to actively participate in physical activities.

Furthermore, research has shown that quality of life for children and youth is enhanced by participation in leisure activities (McManus et al., 2008). Participation in physical activities has the capacity to help young people to nurture skills, improve their relationships with people around them, and ensure good quality of life because doing physical activity can help people to gain new experiences and increase the breadth of their knowledge. However, the safest way to health is by being balanced. As stated by Hippocrates “if we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health” (Michels, 2003). This shows how much effective management of individuals’ lives is important for them to be healthy. With good management and the right motives in physical activity, people may continue to stay healthy by doing more physical activity.

In this study, we aimed to examine the level of motives for participation in physical activities among the preadolescent students in a primary school in Kelantan, Malaysia. In addition, we aimed to examine the difference between males and females in terms of their motives for participating in physical activities, and the correlation between their motives and the amount of physical activity they performed during a typical week.

## METHOD

### Participants

A total of 253 preadolescent students (year 4 and 5) from a national urban primary education school in Kelantan State, volunteered to participate in the study. All of the participants in this study were Malay, and they received consent from their parents. After excluding missing data, there were 204 usable observations left for subsequent analysis. Participants were females (56.4%) and males (43.6%), with mean age 10.5 (SD = 0.50) years old. Most of the participants were involved in some physical activity, such as football (37.8%), badminton (29.6%), netball (12.2%), cycling (4.3%), handball (3.9%), gymnastics (3.0%), volleyball (2.6%) and others (1.3%), and only a small proportion did no physical activity (5.3%).

### Measures

Several demographic and physical activity questions were administered that include age, gender, ethnicity, physical activities.

**Duration of Physical Activities.** Participants were asked how many sessions per week they participated in the physical activities. Then, they were asked to estimate how many hours and minutes for each session. The duration of physical activities per week were then computed by multiplying the number of sessions per week and the hours or minutes per session. The total hours per week of physical activities were considered as the amount (in hours) of physical activity per week for each participant.

The Malay version of the Physical Activity and Leisure Motivation Scale for Youth (PALMS-Y-M) was used in this study. The English version of PALMS-Y is a modified version of the Physical Activity and Leisure Motivation Scale (PALMS) developed specifically to measure motives for physical activity of adolescents (Morris & Rogers, 2004). The PALMS consists of 40 items reflecting eight subscales. Each subscale on the PALMS, contains five items, all measured on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), so higher scores reflect greater motivation. The PALMS demonstrated good validity and internal consistency with Cronbach's alpha ranging from 0.78 to 0.82 (Molanorouzi et al., 2014). In the present study, the 28-item PALMS-Y was selected for use among the youth population who do not work, rarely have chronic medical conditions. Thus in PALMS-Y, the number of items was reduced and pilot work was conducted to ensure items are easily understood by adolescents. Hu et al. (2015) removed the 5-item Others' Expectations subscale from the 40 item PALMS because at least four of the items were not appropriate for adolescents. Furthermore, they excluded the least-strong item from each of the other seven subscales, leaving a 28-item measure, which they validated in a Chinese sample. Consequently, the PALMS-Y consists of 28 items reflecting seven subscales where each subscale contains 4 items. The subscales in PALMS-Y are:

enjoyment, mastery, competition, affiliation, psychological condition, physical condition, and appearance. The validity and reliability of PALMS-Y-M were acceptable and reported in the previous study (Kueh et al., 2018). The PALMS-Y-M was pre-tested in 10 primary school students aged 10 to 11 years old before the present study was conducted. We found that the students could comprehend the PALMS-Y-M without any difficulty. In the present study, the overall internal consistency for the PALMS-Y-M measured by Cronbach alpha was 0.89.

### **Procedure**

The present study was approved by Universiti Sains Malaysia Human Research Ethics Committee. A cross-sectional design was employed in the present study because it allows quantitative data to be collected on a single occasion using selected sample. Participants were given a research information sheet and they were briefed about the study and an information sheet was also given to the participants' parents. The parents' written consent was obtained before the questionnaire was administered to the participants. The questionnaire was distributed to the students during their physical education class as agreed by the principal of the school. The same researcher administered the measures throughout the data collection period. Participants were encouraged to ask questions to clarify any concerns before and during completion of the questionnaire.

**Data Analysis**

Data were entered and analysed using SPSS 22.0. Data were checked for missing data, outliers, and normality. Descriptive statistics, means and standard deviations (SD) were used to describe the levels of motives for participation in physical activities among the preadolescent students. Independent *t*-tests were used to examine mean differences between male and female participants' motives for participation in physical activities for each of the seven motive subscales. Pearson product-moment correlation coefficients were calculated to examine whether there was a correlation between motives for participation in physical activity and amount of physical activity per week.

**RESULTS**

Table 1 shows the mean level of each subscale of motives for participation in physical activities measured by PALMS-Y-M. It is evident that participants reported moderate to high levels based on the 5-point Likert scale, from low motivated

to high motivated for all seven motives for participation in physical activity with maintaining or improving physical condition and enjoyment the most prominent motives.

Table 1  
*Descriptive statistics on motive subscales measured by PALMS-Y-M*

Variable	Mean	SD
Motives for participation in physical activity:		
Enjoyment	4.04	0.78
Mastery	3.83	0.76
Competition/ego	3.57	0.79
Affiliation	3.72	1.03
Psychological condition	3.78	0.86
Physical condition	4.15	0.71
Appearance	3.72	0.86

The independent *t*-test results presented in Table 2 showed that there were no significant mean differences between genders for all the motives for participation in physical activity measured by PALMS-Y-M, except for competition/ego. The analysis for competition indicated that males had a higher level of competition/ego motive than females.

Table 2  
*Independent t-tests comparing males and females on PALMS-Y-M motive subscales*

Variable	Male Mean(SD)	Female Mean (SD)	<i>t</i> -statistic (df=202)	<i>p</i> value
Enjoyment	4.02(0.88)	4.06(0.69)	-0.325	0.746
Mastery	3.87(0.85)	3.80(0.69)	0.630	0.530
Competition/ego	3.79(0.79)	3.40(0.75)	3.676	<0.001
Affiliation	3.85(1.19)	3.62(0.86)	1.657	0.099
Psychological Condition	3.76(0.95)	3.79(0.79)	-0.260	0.795
Physical Condition	4.07(0.77)	4.21(0.65)	-1.417	0.158
Appearance	3.75(0.94)	3.69(0.80)	0.447	0.655

The Pearson product-moment correlation analysis indicated that there were significant correlations between total amount of physical activity per week and motivation for affiliation ( $p = 0.020$ ) within male sample, psychological condition within male ( $p = 0.005$ ) and female ( $p = 0.047$ ) samples. When all samples were combined, the Pearson product-moment

correlation analysis indicated that there were significant correlations between total amount of physical activity per week and motivation for competition/ego ( $p = 0.001$ ), affiliation ( $p = 0.008$ ), psychological condition ( $p = 0.003$ ), and appearance ( $p = 0.049$ ) subscales. The significant correlation coefficient values range from little to fair correlation (Table 3).

Table 3  
*Pearson product-moment correlation coefficients between motives for participation in physical activity and total amount of physical activity*

Variable	Total amount of physical activity, Pearson correlation, $r$ ( $p$ -value)		
	Male n = 89	Female n = 115	All samples n = 204
Enjoyment	0.08 (0.435)	0.08 (0.370)	0.08 (0.289)
Mastery	0.13 (0.241)	0.09 (0.364)	0.12 (0.097)
Competition	0.19 (0.075)	0.18 (0.052)	0.23 (0.001)
Affiliation	0.25 (0.020)	0.12 (0.207)	0.22 (0.001)
Psychological condition	0.29 (0.005)	0.19 (0.047)	0.24 (0.001)
Physical condition	0.17 (0.119)	0.02 (0.826)	0.08 (0.251)
Appearance	0.17 (0.105)	0.11 (0.242)	0.15 (0.033)

## DISCUSSION

Motives for participation in physical activities play an important role in enhancing the frequency of exercise among preadolescent. Thus, it is crucial to motivate preadolescents to have a healthy lifestyle by engaging in various physical activities. As shown in other studies, physical inactivity is linked to major causes of mortality and morbidity, including heart disease, cancer, diabetes, and depression (Armstrong et al., 2000). On the other hand, studies have shown that males are more physically active than their females' counterpart (James, 1993;

Troiano et al., 2008). Drake (2013) reported that men spent more time in physical activities than women. Thus, in this study we examined whether there were significance differences of motives for participation in physical activity between males and females and whether there was a correlation between motives for participation in physical activity and amount of physical activity per week for preadolescent students.

In the present study, we found that male and female students exhibited their highest rating for the physical condition motive among all seven aspects of motives measured in PALMS-Y-M. This shows

that they understood that it was important to be healthy, which involved having a healthy lifestyle, including adequate physical activity. We also found that females were less attracted to physical activity by the competition/ego motive than males. This means that female preadolescents are not strongly motivated to show their ability by beating others. The means of all the other motives are similar for males and females. These findings are consistent with other research. For example, research on gender indicates that males and females exhibits differences in motives for participation in physical activity especially for the competition motive (Frederick & Ryan, 1993; Morris et al., 1995; Weinberg et al., 2000). Males favour competition as a motive for participation in physical activity more than females (Mathes & Battista, 1985).

Researchers have suggested that the habit of being active in physical activity during adult life is highly dependent on childhood fitness (Malina, 2001). Thus, it is important to create awareness and motivation in preadolescent students to participate in various physical activities, which not only have benefits on an individual level, but also help the community by reducing lifestyle-related illnesses, and might improve academic performance. Therefore, it is important for us to understand the relationship between motives of participation in physical activities in order to increase the duration of students participate in physical activities.

The present study revealed that affiliation, psychological condition, and appearance motives were positively correlated with the amount of physical activities per week, increasing support for the claim that motives for participation in physical activities are related to amount of physical activity preadolescents undertake. The correlation between the motives and total duration of physical activity was significant for competition motive that suggests that compete can motivate preadolescents spend more time involved in physical activity. Huotari et al. (2010) reported on the importance of physical activities on fitness levels and supporting evidence of relationship between motives and the amount of physical activities. This important issue should be examined in more detail in future especially in older adolescent age cohorts.

This was a preliminary study, so it has limitations. It was conducted with a relatively small group of preadolescent students. Also, we used convenience sampling by selecting one school only in the Kelantan State of Malaysia. This means that it is not appropriate to make inferences from the results to the preadolescent population across Malaysia or to preadolescents in general. Also, the measurement of amount of physical activity involved responses to a simple self-report question, rather than a validated measure of physical activity. This can be justified on the basis of the age group studied, but use of established measures should be examined with preadolescents prior to further research on this critical issue.

In future, researchers should focus on the effect of motives for participation in physical activity on health-related physical fitness. This can provide a basis for implementing appropriate health plans to improve physical fitness among preadolescent students. It will be also interesting to know whether motives for participation in physical activity are correlated with academic performance among preadolescent students. Therefore, future research should also look at the association between academic performance and students' motives for participation in physical activity. On the basis of findings from this exploratory study, further research should be conducted on the role of motives for participation in physical activity in promoting actual involvement in physical activity in the long term. This research should employ established measures of amount of physical activity, such as the International Physical Activity Questionnaire (IPAQ), which has been validated in Malay language (Craiq et al., 2003).

## CONCLUSION

In conclusion, motives for participation in physical activity should be considered in the objective to improve the amount of physical activity among primary school students. This study demonstrated that differences in motives for participation in physical activity between male and female preadolescents. The significant correlations between several motives for participation in physical activity and amount of physical activity identified in this study further support the need to improve preadolescent students' motivation

in physical activities in order to enhance the time spent on physical activity among preadolescent school students.

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