

Involvement and Strategies to Increase Physical Activities among Art Education Students in UiTM

Penyertaan dan Strategi Meningkatkan Aktiviti Fizikal dalam kalangan Pelajar Pendidikan Seni Di UiTM

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Abstract: The main aim of this study was to describe the level of involvement in physical activity (PA) among art education major in Central University, Selangor, Malaysia. Additionally, this study was also keen to identify current perceptions and potential strategies to encourage students' future participation in PA. This study adopted the mixed-method research design comprising both quantitative and qualitative methodologies. Participants consisted of 30 final year students from art major (AD) students' ages between 24 to 26 years (5 males, 25 females). The PA involvement was assessed using modified International Physical Activities Questionnaire (IPAQ). The qualitative data were gathered via interview protocols to identified perceptions and strategies to support student involvement in PA. Data analysis were conducted with SPSS (version 26.0) using a test such as descriptive statistics (e.g., means, standard deviation, percentage). Majority of the final year art and design education undergraduate students are active. All the participants were also aware of the importance of PA towards health condition, ideal body shape and keeping fit. In term of strategies, many participants believe the faculty or university was responsible for organising various events to encourage them into higher engagement in PA. In addition, most of the participants also involve in either vigorous or moderate intensities PA each week with 66.7% and 46.7% respectively. This study believes individual involvement in physical activities is a long-term process and requires commitment. Only those teachers with high-level of knowledge, understanding and motivation can make changes to the students' perceptions and behaviour towards physical activities.

Keywords: physical activity, teaching and learning, pre-service teachers, art and design

Abstrak: Matlamat utama kajian ini adalah untuk menerangkan tahap penyertaan aktiviti fizikal di kalangan pelajar jurusan Pendidikan Seni di Universiti Tengah, Selangor, Malaysia. Tambahan, kajian ini juga telah mengenalpasti persepsi terkini dan strategi yang berpotensi untuk menggalakkan penyertaan pelajar dalam aktiviti fizikal. Kajian ini mengadaptasi bentuk kajian campuran yang terdiri daripada kaedah kuantitatif dan kualitatif. Peserta terdiri daripada 30 pelajar semester akhir jurusan Pendidikan Seni (AD) berumur di antara 24-26 tahun (5 lelaki, 25 perempuan). Penyertaan dalam aktiviti fizikal dinilai menggunakan "International Physical Activities Questionnaire (IPAQ)" yang telah diubah mengikut konteks kajian. Data kualitatif dikumpulkan melalui temubual untuk mengenalpasti persepsi dan strategi yang bersesuaian menyokong penyertaan mereka dalam aktiviti fizikal. Analisis data telah dijalankan menggunakan perisian SPSS (versi 26.0) menggunakan ujian seperti "descriptive statistics" (cth., purata, peratus). Majoriti pelajar Pendidikan Seni tahun

akhir adalah aktif. Kebanyakan peserta juga sedar tentang kepentingan aktiviti fizikal terhadap kesihatan umum, bentuk badan ideal, dan mengekalkan kecergasan. Dari aspek strategi; peserta percaya fakulti dan universiti bertanggungjawab untuk menganjurkan pelbagai program untuk menggalakkan penyertaan mereka dalam aktiviti fizikal. Tambahan, majoriti peserta juga terlibat sama ada dalam intensiti tinggi atau sederhana pada setiap minggu dengan 66.7% dan 47.7% penglibatan. Kajian ini percaya penyertaan individu dalam aktiviti fizikal adalah proses jangka panjang dan memerlukan komitmen. Hanya pendidik yang mempunyai ilmu pengetahuan, kefahaman dan motivasi yang tinggi boleh membawa kepada perubahan persepsi dan pendekatan pelajar terhadap aktiviti fizikal sepanjang hayat.

Kata kunci: *aktiviti fizikal, pengajaran dan pembelajaran, guru pelatih, seni rekabentuk*

Introduction

The statistics on causes of death published by the Department of Statistic Malaysia (DOSM) in 2019 reported heart diseases remained the top causes of death in 2018, which is 15.6% compared to 13.9% in 2017. A total of 18,267 people has died because of heart diseases. Leung et al. (2016) reported large population studies shows that physically active individuals possess a significantly lower risk of non-communicable diseases (NCDs) (e.g., obesity, diabetes). In Malaysia, Cheah & Poh (2014) cited that a total of 30,992 public respondents were physically active, 17,519 (56.5 %) moderately active and as much as 13,473 (43.4%) were physically inactive.

Human expectations, beliefs and cognitive competencies are developed and influence through instruction and social persuasion (Bandura, 1986). For instance, instructional modelling is commonly associated with the teacher explaining concepts and demonstrate skills to students. Next, the students were expected to demonstrate back the contents learned. Nonetheless, social factors such as family members, peers, experiences, as well as access to equipment and facilities indirectly influence individuals' involvement in lifetime physical activity (PA) (Bandura, 1986).

Technology also played a role in physical inactivity. According to Goje et al. (2014), heavy reliance on the gadget (e.g., smartphone, tablet, voice-recognition device) have contributed to a lower amount of daily PA. For instance, a study on Malaysian internet users aged between 16 to 64 years old found that Malaysians spent on average of 8 to 9 hours daily with gadgets for various purposes (e.g., productivity, social), about 2 hours and 45 minutes on social media, and 100% of the

users have used social network or messaging application (Kemp, 2020). Unfortunately, there was a dose-response relationship between sedentary and NCDs; the higher time spends sedentary, the higher likelihood of the individual getting NCDs sometime in his/her life regardless of age, sex, ethnicity, or body mass index (BMI) (Gonzalez, Fuentes, & Marquez, 2017).

Epidemiological research has shown physical activity can reduce mortality rates and physically active people tend to live longer compared to sedentary. Regular exercise daily plays a key role in improving health-related components, skill-related components, and general wellness (Beni, Fletcher, & Chroinin 2017). For instance, consistent PA may boost brain attention, processing information, storage and retrieval as well as coping mechanism (Lubans, Richards, Hillman et al., 2016). An individual with a positive mind would have higher self-confidence levels and clear goals when joining a tournament. They believe that they can win the competition with aims, set goals, and possess strong mental and physical (Zulkifli & Kulinna, 2018).

Besides that, the economic aspect also affected by individual involvement in lifetime PA. Maintaining healthy lifestyle increase individuals' productivities, general happiness while reducing the cost spend on various healthcare services or products (Kesztyus & Steinacker, 2017). According to the Ministry of Health Malaysia (MOH) annual report (2020), the total medical expenditure recorded constant increment each year. For instance, the health expenditure in Malaysia has risen from RM 35,231 million in 2010 to RM 49,731 million in the year 2014.

This study aimed to find out the perception, levels of

involvement in PA, and proposed several strategies to encourage students' involvement in PA. Therefore, the following objectives were addressed in this study (1) to explore participants' perceptions towards PA involvement, (2) to investigate participants' current levels of involvement in PA, and (3) to investigate student-centred strategies to promote PA among AD students.

Methodology

This study adopted the non-experimental research design to address study objectives which involves qualitative and quantitative data collection and analysis. For qualitative research, an online interview protocol was used to adapt to the movement control order (MCO) period set by the government of Malaysia. According to Chua (2020), numerical data produced by quantitative analysis alone cannot explain the various types of real-world phenomena, thus, qualitative data complement and strengthen the current findings. Moreover, Chua (2020) also noted the methods of an interview are more suitable to investigate individual or group phenomena involving feelings, motivation and empathy that cannot be completely captured by quantitative approach.

The modified International Physical Activity Questionnaire (IPAQ) developed by International Consensus Group in 1998 was used to obtain quantitative data (Craig et al., 2003). Aspects regarding test-retest reliability, concurrent and criterion validity of the questionnaire were compared across 12 countries with individual age between 16-69 years of age (Craig et al., 2003; Beni, Fletcher, & Chroinin 2017). Therefore, the authors were positive this instrument would allow the researchers to collect mass numerical data and analysed for meaningful information. Additionally, quantitative data may also increase the quality and precision of the results (Gratton & Jones, 2010). Next, the questionnaire was modified based on the study objectives, participants' background as well as understanding (Bhattacharjee, 2012).

Participants

The participants involved in this study comprises Art and Design Education Major (AD) undergraduate level pre-service teachers at a central university located in Selangor, Malaysia. The participants consisted of 30 undergraduate students (male and female) with age ranging between 22 to 26 years old. Majority of students enrolling on this university were from Malay ethnicities with a minority of students from the East of Malaysia (e.g., Sabah and Sarawak). Additionally, probability cluster sampling was utilised in recruiting potential participants for this study. As this study was

done with a single group (i.e., final year students) during the semester, the sampling technique chosen was appropriate as it time saving and geared towards improving the participants' knowledge of their current PA involvement and strategies to become active on campus and beyond (Sharma, 2017).

Additionally, the inclusion criteria for this study include (1) art and design education major students, (2) mix-genders (male & female), (3) final year undergraduate level student, and (4) provide consent to participate in this study. Meanwhile, the participants were excluded if (1) students enrolled in other departments, (2) enrolled in postgraduate studies, (3) not a final year undergraduate student, and (4) decline to participate in this study.

Measures

The modified IPAQ was used to describe participants' levels of involvement in PA and strategies to increase their engagement with PA. The questionnaire uses the form of a Likert scale to support participant select the response most applicable to them. The scales allow the participant to choose one option between 1 to 4 (i.e., 1-strongly disagree, 4- strongly agree) to each of the statement. The questionnaire composed of 15 questions, in addition to the demographic section.

Importantly, the researchers have assured the participants before and during the study that their identity remains anonymous and information was kept confidential and use only for this study purposes. Specifically, the questionnaire composed of three parts: (1) demographic information, (2) levels of involvement in PA, and (3) strategies to encourage participants' engagement with PA. In terms of validity and reliability issues, apart from the IPAQ have been used in numerous study (Lee, Macfarlane, Lam, & Stewart, 2011; Beni, Fletcher, & Chroinin 2017), the modified questionnaire was also sent for peer-reviewed by the content expert to improve both contents and word selections in the questionnaire.

Due to MCO restriction, the researchers have decided to utilise the WhatsApp's (Facebook Inc.) mobile application to conduct the interview online. A group was created to facilitate the interview process throughout the study. The participants were also given the choice to respond to the questions either by text or voice messages. Several questions asked includes: (1) What does PA means to you? (2) How important is PA to you? (3) How often do you involve in PA in a week? and (4) What are the suitable strategies to encourage more engagement of art and design students into PA? Both text and voice messages were then transcribed to

identified trends, frequencies, categories, and themes.

Procedures

The initial phase of this study involves many hours of literature review and online meetings with content experts in the authors' university. The researchers then work to establish the main aims, questions, and objectives of this study. Data collection was done throughout the month of April and May 2020 involving single undergraduate classes of art and design pre-service teachers. Prior to data collection, the researcher has ensured the participants were fully aware of this study aims, objectives, benefits, and risks of participating in this study.

Once the consent forms are obtained and checked by the researchers, the participants were given the modified IPAQ at the beginning of the study. Additionally, the researchers also created a group on WhatsApp's (Facebook Inc.) application as the main channel to conduct the interview sessions. The researchers conducted the interview sessions with a participant via this channel. The duration of each interview session was about 8 to 10 minutes. For each interview session, the researcher would interview one participant at a time. In a case when the participants unable to be contacted online (i.e., poor network connectivity, faulty device), the researcher would encourage the participants to provide voice recording messages to answer the questions given. The participants were also encouraged to ask any questions and communicate with the researchers with any issues or concerns.

Data Analysis

The IBM Statistical Product and Service Solutions (SPSS) (version 26.0) computer software was utilized to analyse the data collected. Descriptive statistics, which were mean, standard deviation (SD), and percentages were calculated for variable assessed in this study (e.g., levels of involvement in PA, strategies to improve PA engagement).

According to Awang (2011), the qualitative data collection was equally important as it allows the researcher to obtain non-numerical information from participants related to the issues. In this study, the qualitative data were compiled to achieve the following objectives: (1) To identify participants' perception toward PA involvement, (2) To identify participants' level of involvement in PA, and (3) To identify potential strategies to support participants' engagement in PA (Awang, 2011).

The researchers adopted the phenomenological

approach in conducting the interview sessions which emphasizes the wholeness of experience and how it may affect individual perceptions and behaviours towards PA (Moustakas, 1994). Focusing on experience rather than scientific criteria, conceptual, and the categorical system allows the researchers to obtain additional insights on the matters. Due to small samples in this study, the researcher decided to manually transcript the data and categorise it into themes for meaningful information.

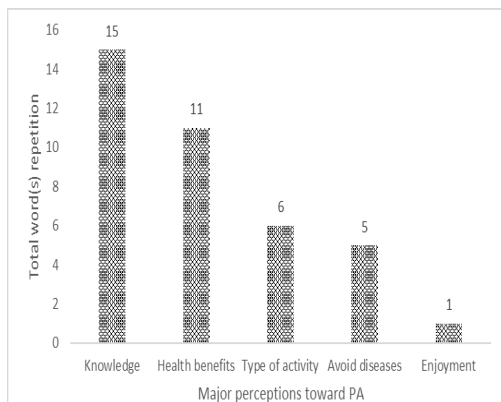
Results

After the exclusion of five participants (i.e., not reachable for the phone interview, did not complete the questionnaires), participants consisted of 30 art and design education final semester students participated in this online-based study.

Participants' Perception Toward PA Involvement
Using the Consider.ly qualitative data analysis software developed by User time Solutions GmbH, the participants' perception toward PA involvement is shown in figure 1 below. Based on the interview sessions, the researchers found that most of the participants possess the basic knowledge and purpose of getting involved in regular PA (15 times repeated throughout all sessions). Besides that, the main reason for them to engage in PA was to gain the benefits of PA such as being active (repeated 3 times), improve cardiovascular endurance and strength (2 times) as well as energetic, stamina, agility, and maintaining ideal body weight (1 time, respectively). Additionally, most of the participants preferred jogging as their type of PA while some engaged with PA to reduce the chance of getting diseases in the future (e.g., obesity, diabetes type 2). Nonetheless, throughout the sessions, only one participant relates to PA as a source of enjoyment for them. When asked about strategies, the majority of the participants talked about organised programs by the faculty or department to help them engaged with PA regularly (13 times). Several activities suggested by the participants includes Zumba, yoga, jungle trekking, and multi-sports games.

Figure 1: The major perceptions toward PA involvement

based on tag occurrences



The Participants' Levels of Involvement in PA

The participants' engagement levels in PA was shown in table 1 below. As much as 14 participants reported engaged in moderate-intensity PA throughout the day (46.7%) while 9 participants were not able to engage in PA due to various reasons (30%). Besides that, based on table 2; as much as 12 participants either disagree or strongly disagree with the descriptor "Do you walk or cycle for a minimum of 10 minutes continuously to get to places?" (26.7% and 13.3% respectively). Meanwhile, an equal number of participants (9 participants) either agree or strongly agree with the above descriptor (30%). Additionally, there were mix responses with the descriptor "Performing PA in class is sufficient for me" with 13 participants disagree (43.3%) and 10 participants agree (33.3%). Table 3 also shown three participants reported higher dependency on doing PA in class as an opportunity for them to be active and healthy (13.3%). Higher reliance on the class as a source of PA also reflected in Table 4 which 15 participants reported agreed with an item related to not having time to engage in PA due to other commitment (50%). Meanwhile, only several participants either disagree (5) or strongly disagree (4) with the same item (16.7% and 13.3% respectively).

Table 1. Frequency of engaging in moderate intensity PA in a day

	Frequency	Percent
Disagree	9	30.0
Agree	14	46.7
Strongly agree	7	23.3
Total	30	100.0

Table 2. How often do you walk or cycle for at least 10 minutes continuously to get to places?

	Frequency	Per cent
Strongly disagree	4	13.3
Disagree	8	26.7
Agree	9	30.0
Strongly agree	9	30.0

Table 3. Performing PA in class is sufficient for me

	Frequency	Percent
Strongly disagree	3	10.0
Disagree	13	43.3
Agree	10	33.3
Strongly agree	4	13.3
Total	30	100.0

Table 4. I do not have time to perform PA due to other commitment

	Frequency	Percent
Strongly disagree	4	13.3
Disagree	5	16.7
Agree	15	50.0
Strongly agree	6	20.0
Total	30	100.0

The Strategies to Encourage Art and Design Students to Engage in PA

Based on table 5 shown below, strategies related to fitness tests were least favoured by the participants with item 5 reported lowest mean values (mean= 2.17, SD= 1.11) and item 3 with values (mean= 2.57, SD= 1.25). Integrating sports and outdoor activity classes in their program might also not motivate the participants to engage in PA (mean= 2.53, SD= 1.04). Nonetheless, most of the participants suggested the faculty or department was responsible to organise events to promote PA which would give them higher motivation to increase their PA involvement on regular basis (mean= 3.33, SD= .66). Additionally, many participants agreed with organising sports events consistently may increase their motivation to engage in PA throughout their studies (mean= 3.27, SD= .64).

Table 5. Strategies to encourage students' involvement in PA

	N	Mean	SD
1)Faculty or department should do an event of physical activity involving all Art and Design Education students will motivate me to engage in physical activity.	30	3.33	.661
2)Constantly organized sports event at the university will motivate me to engage in physical activity.	30	3.27	.640
3)A fitness test every month in every semester will motivate me to engage in physical activity.	30	2.57	1.251
4)Have more classes involving sports and outdoor activity will motivate me to engage in physical activity.	30	2.53	1.042
5)Held a fitness test among art and design education students.	30	2.17	1.117

Discussion

Based on the results, most participants were aware and possess basic knowledge of the purpose of involving in regular PA. They viewed PA as a source for physical improvement (e.g., improve cardiovascular endurance, stamina, agility), avoiding health problems (e.g., maintaining ideal body weight), and social connection with others (e.g., enjoyment). This finding is in line with Puterman et al. (2017) suggesting PA deprivation were capable to elevate the chance of getting both acute and chronic stress as well as various cardiovascular-related diseases. The lack of PA would also contribute towards many health issues regardless of the individual's age, sex, ethnicity, or body mass index (BMI) (Gonzalez et al., 2017). Furthermore, findings from this study solidify findings from previous studies in relation to PA which to achieve healthier body conditions, maintaining body weight, and reducing the chance of getting diseases (Gavin et al., 2014; Hoare et al., 2017).

Although many of the participants reported engagement with vigorous or moderate-intensities PA several times each week, there was only one participant who associates PA with enjoyment. This is in line with studies by Hoare et al., (2017) which reported only 8% of the participants selected mood improvement as motivation to engage in PA. In contrast, studies from Lewis, Williams, Frayeh, and Marcus (2016) suggested enjoyment factor was critical in determining an individual's self-engagement with regular PA. Enjoyment in doing PA would also lead to higher self-

efficacy which would enhance PA involvement among individual (Crain et al., 2010). Besides that, the enjoyment would also lead towards higher social interaction and protection against health conditions related to mental disorders (Wegner et al., 2014).

Both factors were also in line with the self-determination theory (Ryan & Deci, 2000) and hedonic theory (Cabanac, 1992) which suggest individuals were more driven towards certain goals when they were intrinsically motivated. More specifically, factors such as self-persuasion and mastery experiences of PA also influence the individual's self-efficacy and enjoyment in PA engagement. For instance, an individual who experiences many failures during physical education may not be interested in participating in PA beyond school settings (Warner et al., 2014). Studies by Beni, Fletcher, and Chroinin (2017) also showed individual who was active during school years were more likely to be active throughout their lifetime.

One of the purposes of this study was to examine the participants' current levels of involvement in PA. Results indicated most of the participants reported to engage in moderate-intensity PA throughout each day. In contrast, as much as 12 participants did not manage to spend at least 10 minutes walking or cycling continuously to get to their places. Most of the reasons related to lower levels of PA were associated with lack of interest in PA, prioritising other commitments (e.g., classes, assignments etc.), access to own vehicle, and perceive PA as less important.

Apart from the above reasons, other studies also suggested a lack of time and social (partner/group exercise) as other common barriers to engage in PA (Hoare et al., 2017). The reasons can be associated with the participants' enjoyment and self-efficacy in doing PA. The combination of both factors would then develop the individual's physical self-concept which refers to his/her self-beliefs on personal appearance and physical abilities (Marsh, Martin, & Jackson, 2010). Previous achievement and experience with PA would also contribute toward the development of individual physical self-concept (Lindwall, Asci & Crocker, 2014).

Most of the participants valued PA in class as their opportunity to get active throughout the day. They mostly blamed lack of time and other commitment (e.g., assignments, jobs etc) as reasons for a sedentary lifestyle and higher reliance on the chance of PA during class time. Many previous studies have associated PA in class with positive outcomes such as improved brain function (Lubans et al., 2016), improved oxygen delivery throughout the body (Ratey, 2008), and (3) increase PA levels throughout the day while supporting

their learning physically, cognitively, and emotionally (Lubans et al., 2016).

With regards to the relationship between enjoyment, self-efficacy, and self-concept, PA in the classroom would help to fulfil participants' needs to be free, belonging, and have fun (Lengel & Kuczala, 2018). Nonetheless, many studies also raise issues of teachers lack of knowledge and skills to add movement into the teaching and learning session. Besides that, the longer time needed in planning additional activities and student's willingness to participate in PA during class time would also influence the effects of PA in class (Benes, Finn, Sullivan, & Yan, 2016).

Based on this study results, most participants seem to agree with the department or faculty was responsible for the planning and executing PA programs to improve their PA levels. Activities such as Zumba as suggested by the participants were able to gather many students in a specific location, increase PA levels significantly through moderate or vigorous PA, and most importantly added the element of fun into performing PA (Stevinson & Hickson, 2013). Nonetheless, mass participants sport and exercise such as Zumba, cycling, running, swimming, and frisbee were more beneficial to the least active individual compared to previously active individual. This was due to the individual has already involved in much moderate-to-high intensity PA, thus, already experiencing the various exercise benefits (e.g., increase strength, endurance etc) (Gavin et al., 2014).

Additionally, infusing brain-break or energiser activities in the classroom would also support the participants to improve PA levels throughout the day. Additionally, several studies also suggested PA in the class were capable to stimulate creativity and reduce students' fear of failure. Students were more willing to experiment with various materials and equipment while maintaining focus throughout the learning session (Beni et al., 2017).

Implications for Future Studies

Although most of the participants were aware of the needs and importance of daily PA, they were still depending on the faculty for the opportunity to become active. Therefore, educators in any field should be encouraged to invest some time to learn about teaching art through games, adopting methods such as brain-break activities, small group activities, movement beyond the classroom to learn the various art education contents. Website or application such as "GoNoodle.com", "Cult of Pedagogy.com", and Youtube (Google. Inc) would also provide both the

educator and students with ideas on how to learn through movements and be active throughout the day. There were few limitations to the study, including small sample size, absence of actual PA tests, and no interventions conducted in this study.

To summarise, apart from organising various PA programmes for the students, providing skills such as self-monitoring, goal settings, and making good consumer choices (e.g., health clubs, media, equipment) to students also enhances their independence and likelihood of becoming active throughout the lifetime. Future studies should consider bigger samples covering the whole art and design department rather than a solely final semester and to conduct interventions to support learning and improvement in daily PA levels among students.

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