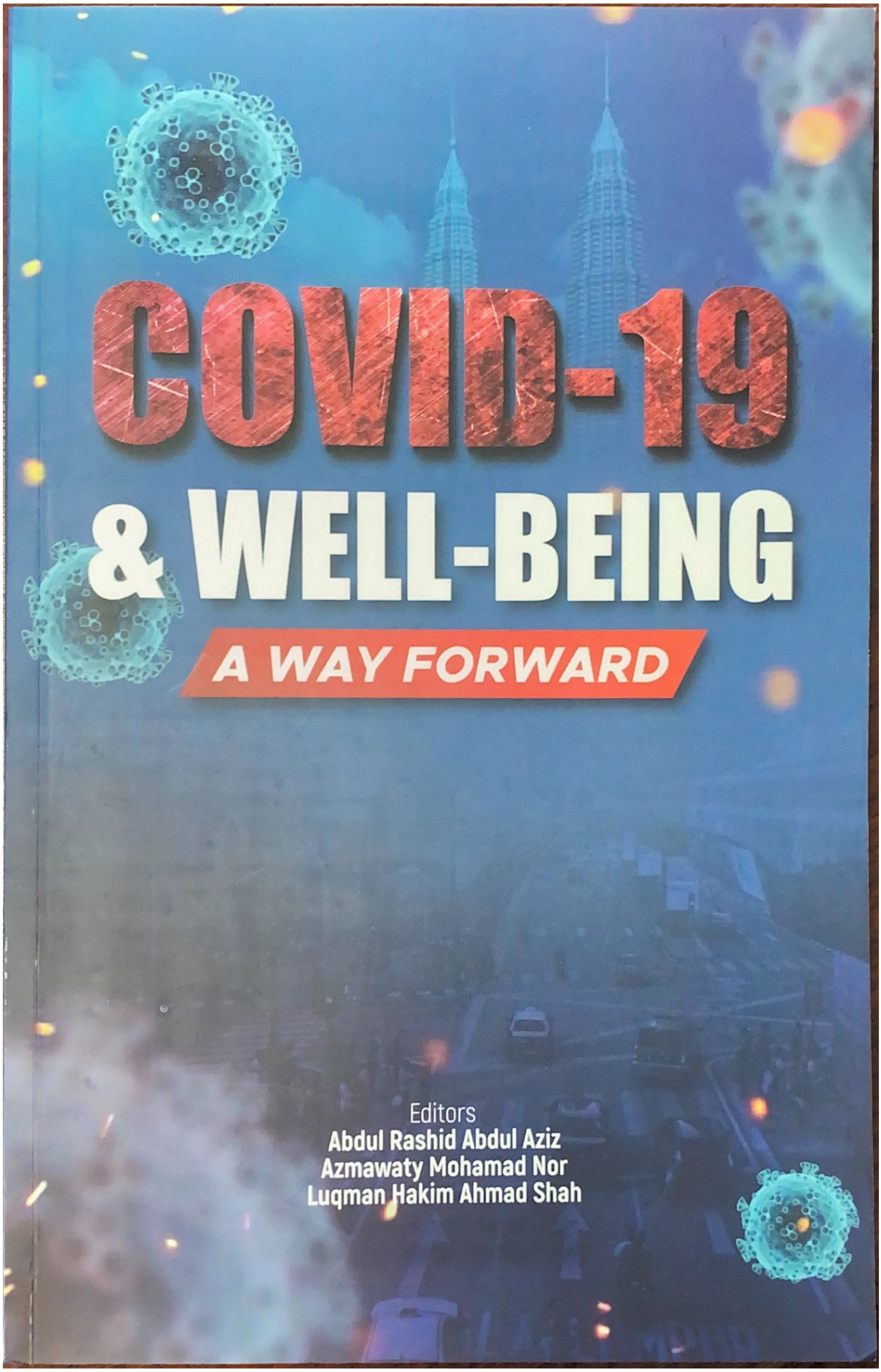
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& WELL-BEING
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INTRODUCTION

The COVID-19 pandemic has brought unparalleled catastrophe to global health, and the social and economic systems of many nations. To control the spread of COVID-19, most countries have enforced a societal-level lockdown. One of the significant changes in life affected by the COVID-19 lockdown is physical activity. Physical activity has significant health benefits and regular physical activity programmes can reduce body fat to help achieve ideal weight. Numerous clinical studies have proven the effect of physical activity and balanced diet, which can combat obesity. In Malaysia, awareness of the importance of physical activity is still lacking. Malaysians usually participate in physical activities after being struck by an illness. The National Health Morbidity Survey (NHMS) in 2019 found that one out of four Malaysians above 16 years old were physically inactive; specifically, the statistics show 59% of the elderly above 75 years old, 39% students, 28% women and 27% urban dwellers were the least active physically, as depicted in Figure 3.1. According to the World Health Organisation (2019), physical inactivity is the 4th leading risk factor for global mortality.

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COVID-19 & WELL-BEING

A WAY FORWARD

This book aims to address the possible solutions and adaptations that can be adopted by each individual, families, organisations and the communities to face the challenges caused by COVID-19. Twelve chapters are presented in this book, with each chapter discussing a unique perspective on the challenges related to this pandemic. The chapters in this book discuss issues such as spiritual/emotional/physical well-being, the influence of mass and social media, the impact on education, panic buying, shortages and business crises, environmental awareness and sustainable energy, law and urisdiction related to national security, Malaysian government directives and incentives, conflicts and challenges among frontliners, as well as labour market and employment. The discussion and explanation presented attempt to elucidate the methods that must be adhered to in order to adapt ourselves and the environment in this challenging time. The solutions presented are meant to be thought provoking to ignite awareness towards the implications of our actions, either it is from individual, community or national perspectives. The chapters of the book, written by experts in their respective fields, are based on experimental learning as guidance for everyone in confronting the new normal in this trying pandemic era.

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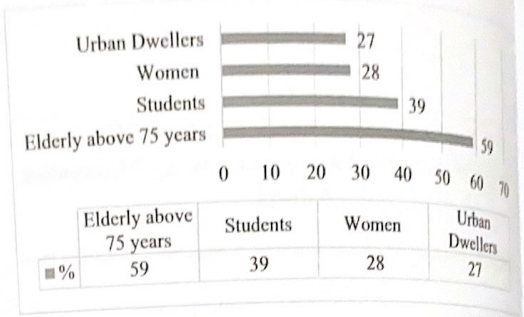
Chapter 3

The Implications of Pandemic COVID-19 on Physical Activity Awareness among Malaysian Adults

Suhaiza Samsudin, Gunathevan Elumalai & Nurazzura Mohamad Diah

INTRODUCTION

The COVID-19 pandemic has brought unparalleled catastrophe to global health, and the social and economic systems of many nations. To control the spread of COVID-19, most countries have enforced a societal-level lockdown. One of the significant changes in life affected by the COVID-19 lockdown is physical activity. Physical activity has significant health benefits and regular physical activity programmes can reduce body fat to help achieve ideal weight. Numerous clinical studies have proven the effect of physical activity and balanced diet, which can combat obesity. In Malaysia, awareness of the importance of physical activity is still lacking. Malaysians usually participate in physical activities after being struck by an illness. The National Health Morbidity Survey (NHMS) in 2019 found that one out of four Malaysians above 16 years old were physically inactive; specifically, the statistics show 59% of the elderly above 75 years old, 39% students, 28% women and 27% urban dwellers were the least active physically, as depicted in Figure 3.1. According to the World Health Organisation (2019), physical inactivity is the 4th leading risk factor for global mortality.



	Elderly above 75 years	Students	Women	Urban Dwellers
%	59	39	28	27

Figure 3.1: Least active physically in Malaysia
(Source: NHMS, 2019)

Moreover, physical activity is an important determinant of health, and physical inactivity is likely to be exacerbated by social distancing measures. With the recent global pandemic of COVID-19, undeniably there will be diversity and modification in performing physical activities. Due to the pandemic, the majority of people are forced to stay at home, especially throughout the period of lockdown or Movement Control Order (MCO), which was imposed by most governments worldwide and Malaysia is not exempted. This phenomenon has indirectly affected the previously regular lifestyle filled with physical activities and exercises that people normally do. However, it is even harder for people who do not routinely perform any physical activity or exercise. This unique situation has changed everyone's overall physical activities and sedentary behaviours. Undeniably, COVID-19 pandemic has restricted physical activities in people of all ages. Closure of indoor and outdoor sports centres, public swimming pools, and playgrounds has taken place in many countries. Online communication for work, leisure and shopping is now part of our daily activities. Nevertheless, it is very essential for everyone of all ages and abilities to remain active as much as possible, due to the great benefits for both body and mind that one will gain from being physically active (World Health Organisation, 2020a).

The contribution of physical activity towards a healthy life is vital. Physical activities are normally carried out individually or in groups. Physical activity refers to any movement of the body produced by skeletal muscles. Regular physical activity is important for weight management and bone mineral supplementation during childhood and adolescence. Increased energy consumption required during physical activity will contribute to the functional efficiency of various system, reducing the risk of degenerative diseases, reducing the risk of early death and improving overall quality of life (Pickup, 2016).

Closure of most gymnasiums or fitness centres during the MCO phase poses significant challenges for one to remain physically active, especially for people who prefer to exercise at a fitness centre or outdoors. Furthermore, even though self-quarantine at home is important as one of the preventive measures taken during the pandemic, it has the potential to cause additional stress on the physical and mental health of people. It is common knowledge that sedentary behaviour and low levels of physical activity can have negative effects on the health and well-being of individuals (World Health Organisation, 2020b). According to the World Health Organisation (2020), performing 150 minutes of moderate intensity or 75 minutes of vigorous physical activity per week is recommended. In fact, this recommendation is achievable without special equipment even if one needs to stay at home beyond the two weeks of quarantine.

THE IMPACTS OF COVID-19 ON PHYSICAL ACTIVITY

The implementation of MCO across the world has led to a change in lifestyle that is now referred to as the 'new norm'. People who have been previously active in sports, outdoor games or regular gymnasium attenders found this MCO period a challenging time for them. The need to stay at home reduces their opportunities to maintain their normal physical routine. This situation has not only affected society but also involved many athletes locally or internationally. To protect the health of everyone (athletes or spectators), most sporting events have been postponed or

cancelled. These include marathons, football matches, athletics championships and many more. For the first time in the world history of modern games, the 2020 Olympics and Paralympics have been postponed due to COVID-19 (United Nations, 2020).

The recent recommendations by health authorities such as staying at home, and the closure of parks, gymnasiums and fitness centres to prevent the spread of COVID-19 have the potential to reduce daily physical activities. This is unfortunate because routine exercises may help to fight the disease by boosting the immune systems (Woods et al., 2020). Most competitive sports demand close contacts between athletes by the teammates, opponents or when sharing equipment such as barbells in weightlifting, but this can be risky due to the virulent effect of COVID-19. In addition, highly prestigious sports that are held in big stadiums with high numbers of spectators increase the risk of spread. Another great concern is international sports competitions, whereby asymptomatic carriers among athletes, specifically from countries with high prevalence of the virus, may spread the virus to the opponents or the spectators, triggering an outbreak in the host country. This can expedite the international or intercontinental virus transmissions. Therefore, it is a rational action to cancel or postpone all sports competitions or events until the pandemic ceases.

Nevertheless, this situation poses great emotional reactions among athletes and their supporters. It is a known fact that maintaining good performance in sports requires regular and persistent training. To do this continuously comes with a cost. Cancellation of sports events causes extra distress onto athletes as well as organisers. Undoubtedly, this situation also leads to economic losses and financial burden to those involved.

The impact of COVID-19 does not only affect athlete's performance and their physical training. It also causes significant distress to the public as well. Closure of parks, school and cancellation of many sport activities may prevent public from achieving the recommended levels of physical activity.

THE IMPORTANCE OF PHYSICAL ACTIVITY DURING THE COVID-19 PANDEMIC

In the time of COVID-19 pandemic, maintaining physical activity will be a challenging situation. Yet, it is critical for the society to find and plan an appropriate strategy to remain active and reduce the sedentary lifestyle. Physical activity is a powerful health enhancer that may help combat this pandemic in several ways. Research has established clear benefits of improved physical and physiological health parameters, as well as well-being of individuals (Chekroud et al., 2018).

In view of the current circumstance, there are certain benefits of physical activity, which may be specifically pertinent to the COVID-19 pandemic. These benefits include the reduction in inflammation within the body while at the same time enhancement of the body's immune function. This mechanism is vital as it can reduce the severity of infections. Aside from this, regular physical activity will also improve common chronic conditions such as diabetes mellitus, heart disease or cardiovascular disease that increase the risk of severe COVID-19 illness. Additionally, the link between physical activity and mental well-being is apparent. During the COVID-19 pandemic, the situation may place society in a stressed or distressed situation, whereby this may potentially create an imbalance of cortisol levels and indirectly impair the immune function. However, physical activity helps to balance the hormone cortisol within the blood circulation. What is more, it is a great stress management tool that reduces the symptoms of anxiety and depression (Van Niekerk, 2020). Research has shown that enforced sedentary behaviour can lead to depression and low moods in healthy people as early as seven days. Taking into account the current situation of COVID-19 worldwide with countries in enforced periods of MCO, this may potentially have an impact on the mental well-being of many people and even more so if they do not engage in any form of physical activity (Elbe et al., 2019).

AWARENESS OF PHYSICAL ACTIVITY AMONG MALAYSIANS DURING COVID-19

The declaration of COVID-19 as a global pandemic by WHO in March 2020 has resulted in a drop in physical activities worldwide and this raises the concern of a health threat. An online survey was conducted among Malaysian adults aged 18 and above during the enforcement of MCO. The objective of this survey was to evaluate their state of awareness on the importance of being physically active despite the enforcement of MCO by the Malaysian government. The survey was participated by 630 adult Malaysians. The characteristics of the participants are shown in Table 3.1 below:

Table 3.1: Socio-demographic characteristics of participants

Variables N=630	n	%
Age		
18 – 25	19	3.0
26 – 35	198	31.4
36 – 45	201	31.9
46 – 55	127	20.2
56 -- 65	63	10.0
≥66	22	3.5
Ethnicity		
Malay	568	90.1
Chinese	18	2.9
Indian	10	1.6
Others	34	5.4
Educational Level		
Primary	1	0.2
Secondary	52	8.2
Certificate	25	4.0
Diploma	81	12.9
Bachelor's degree	355	56.3
Master	91	14.4
PhD	25	4.0
Marital Status		
Single	330	52.4
Married	282	44.8
Divorce	18	2.8
Employment Status		
Students	176	27.9
Self-employed	24	3.8
Government sector	202	32.1
Private sector	196	31.1
Unemployed	26	4.1
Pensioner	6	1.0
Household Monthly Income		
≤ RM 3000	182	28.9
RM 3001 – RM 6000	196	31.1
RM 6001 – RM 9000	121	19.2
RM 9001 – RM 13417	66	10.5
≥ RM 13418	65	10.3
Place of Residence		
Urban	484	76.8
Rural	146	23.2

Table 3.1 shows the socio-demographic distribution of participants in the survey. Most of them were young adults (aged 18 to 45 years), the rest were from middle adulthood (30.2%) while late adulthood comprised only 3.5%. The Malays formed the majority of the respondents (90.1%), followed by the Chinese (2.9%), Indians (1.6%) and other ethnic groups (5.4%). With regard to educational level, the majority of the respondents (91.5%) had completed their tertiary level of education. More than half of the respondents were single (52.4%), 44% were married

and only 2.8% of the participants were divorcees. For the employment status, it shows that most of the participants were from the employed category (67%), either self-employed (3.8%) or working with the government (32.1%) or in the private sector (31.1%).

Meanwhile, the patterns of physical activity performance are depicted in Table 3.2.

Table 3.2: Patterns of physical activity performance

Variables N=630	n	%
Engagement in Physical Activity		
Yes	510	81.0
No	120	19.0
Frequency of Performing Physical Activity		
Every day	240	38.1
1 to 2 days per week	144	22.9
3 to 4 days per week	44	7.0
5 to 6 days per week	82	13.0
Never	120	19.0
Duration of Performing Physical Activity		
Less than 15 minutes		14.4
15-30 minutes		40.5
30-45 minutes		13.8
1 hour		7.6
More than 1 hour		4.6
None		1
Possess Exercise Equipment at Home		
Yes		56.8
No		43.2

Variables N=630	n	%
Types of Equipment at Home		
Bicycle		30.0
Racquet		17.1
Ball		8.3
Dumbbells		9.0
Ropes		7.6
Treadmill		2.5
Private pool		0.8
Chess		2.5
Dart		2.5
Cards		0.3
Karaoke set		2.2

The participants' state of awareness on physical activity was evaluated by a set of questionnaires. It was found that most of the participants achieved high marks, which were above 80% out of the 125 of the maximum score. The survey also established that 81% of them were still engaged in physical activities despite the MCO. The living room and bedroom had been chosen as the most frequent places for them to perform physical activities during the MCO. However, the duration of physical activities performed by the respondents varied and this could be attributed to the place where they performed the physical activities. Among those who engaged in physical activities, 38.1% of them performed the activities daily while only 22.9% of them did not meet the minimum requirement of physical activities as recommended by WHO.

Additionally, it was observed that 56.8% of the participants have exercise equipment at home. Among the types of equipment identified, the bicycle (30%) was the most common type of exercise machine that the respondents have at home, followed by racquet (17%) and dumbbells (9%). Other types of exercise equipment were less favoured by the participants. Even though the findings from this survey seem to be encouraging, the data do not

represent the actual picture of the Malaysian population, as the data were collected through convenience sampling method.

SOLUTIONS TO AVOID FROM BEING PHYSICALLY INACTIVE

The novel coronavirus disease seems to be having a major impact on physical activity. The widespread of COVID-19 has forced the worldwide population to stay at home for a lengthy period. The implementation of the movement control order (MCO) during the COVID-19 pandemic should not be a barrier for someone to stay physically active during this period. The main objective of this MCO is to ensure the people are not being infected with the virus; in other words, to protect the people from getting the infection by staying in safe places. However, if someone chooses to be physically inactive or lead a sedentary lifestyle during this pandemic, the risk of developing another medical problem is likely. Being physically active should be recommended for everyone but with extra precaution to avoid the spread of the infection from person to person or from any contaminated surface. There are likely very limited opportunities to do physical activities outdoors during this period, with most people forced to stay at home or adopt isolation protocols to prevent transmission of the virus. It is therefore recommended that people should stay active by exercising at home.

Exercising in a private environment such as within the home compound with good ventilation and using personal equipment (if needed) is more reasonable. A home exercise programme that is simple and easily implementable is good enough to preserve fitness levels. This programme may include simple aerobics such as walking in the house, strengthening, stretching or a combination of these (Ahmadinejad et al., 2014). Aerobic exercise is defined as training that elicits low, moderate or high cardiovascular strain. This form of exercise can be accomplished by utilising a static bicycle, rowing ergometers and treadmills, or several types of dance sport such as *zumba* and *salsa* (Hammami et al., 2020).

Another possible alternative is brisk walking outdoors. However, one has to observe extra caution by maintaining a safe distance from others. There are also a few alternatives that can be used to support individuals in staying physically active while at home in self-quarantine. Dancing, playing with children, and performing domestic chores such as gardening and cleaning are some examples of how to stay active at home. Another great way is by following an online exercise class. There are many online exercises that can be accessed freely on the Internet, but one needs to be aware of one's own physical limitations to avoid any injury. Simple walking even in a small space or just walking around the house or on the spot can also help someone to remain active.

Performing body weight training within the home comforts is also feasible and can improve physical function in everyone. Bodyweight training is an exercise that uses the body as a means of resistance to perform work against gravity (Harrison, 2010). Examples of such exercises for the upper and lower body include push-ups, squats, box jumps and burpees. The advantages of bodyweight training for musculoskeletal health and functional capacity are well established, even for untrained persons (Jonhagen et al., 2009; Pedersen & Saltin, 2015). Notably, the benefits of this type of training are forgotten and most people solely concentrate on aerobic fitness. Among the valuable benefits of bodyweight training include improvement of blood cholesterol level, immune function, blood glucose, blood pressure, and maintaining muscle strength and mass (Van Niekerk, 2020).

The main objective when starting any physical activity or exercise is to gradually work towards completing at least 30 minutes of moderate physical activity every day for five days or at least 75 minutes of vigorous activity throughout the week. Additionally, it is highly recommended to include body weight and strengthening activities at least twice a week (Samuelson, 2004).

The implementation of the MCO during the COVID-19 pandemic forces everyone to stay at home. Activities such as reading, writing, cooking, watching television, playing online

games and daytime sleeping become routine for those who are no
active in physical or recreational activities. They normally prefe
a more sedentary lifestyle due to lack of awareness of the benefits
of physical activity. A sedentary life without any physical
movements will increase body fat, which further contributes t
most non-communicable diseases. The concentration in fighting
COVID-19 will decrease the importance given to other ailments.
The global population should be aware that prevention is better
than cure. A healthy lifestyle with balanced diet, ideal weight and
being physically active will enhance one's physical and mental
health, as shown in Figure 3.2.

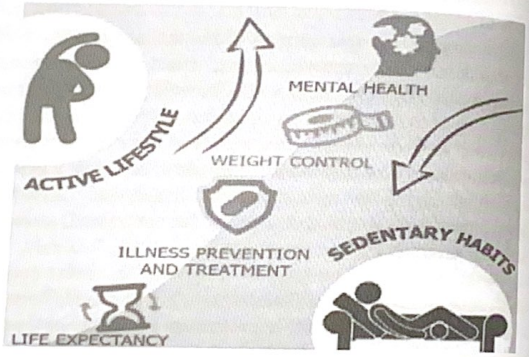


Figure 3.2: Mental and physical well-being are negatively affected by sedentary habits and positively affected by active lifestyle
(Source: Teferi, 2020)

The unexpected situation during MCO has created an obstacle for sports lovers to participate in games and physical activities. They have to find some alternative physical activities that can be carried out inside the house. Doing physical activities in a small area or indoors will demotivate and cause them to stop from doing the activities continuously. Being physically active in our daily life is not as easy as we think, especially among individuals who work long hours and those who are never involved in any kind of physical activity. Trying to do a new thing in daily life needs high

level of motivation and self-confidence. To overcome this situation, proper guidance should be given to the people through mass media. Media influence is the actual force to change people's beliefs and behaviours. The Theory of Planned Behaviour is a good guidance for people to get involved in physical activities, as illustrated in Figure 3.3.

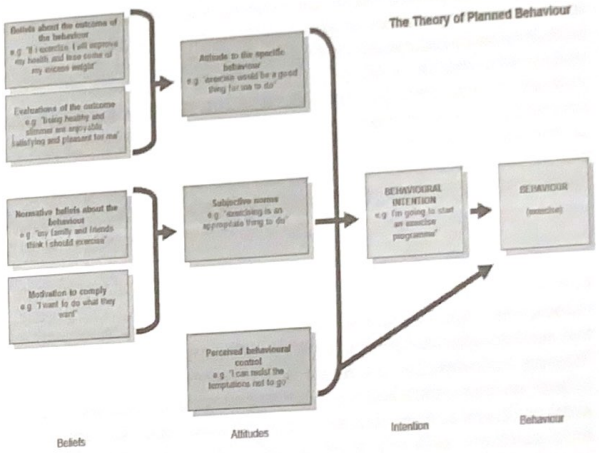


Figure 3.3: Prediction of leisure participation from behavioural, normative and control beliefs
(Source: Ajzen & Driver, 1991)

The Theory of Planned Behaviour is an extension of the Theory of Reasoned Action (Ajzen & Driver, 1991). It is believed that motivation (either intrinsic or extrinsic), self-confidence, ability and self-efficacy will cause individuals to participate effectively and exercise regularly in their daily life. This theory emphasises on the role of perceived behavioural control as an influence on behavioural intentions and actual behaviour. There are three background factors that control behavioural changes in individuals;

1. Social Factors

Social factors such as age, gender, occupation, socio-economic status, religion and education will influence the behavioural changes in general. During the MCO, most of these factors will contribute towards the success and sustainability of engaging in physical activities. The involvement in physical activities will increase when we are free to move around and we are more likely to do physical activities outdoors. However, during MCO, access to recreational outlets and sports facilities is unattainable. Elderly people who used to walk or jog have to stay at home without any activity, compared to youngsters. Men can find alternate physical activities at home compared to women. Economic status will be a consideration if one is interested in buying any equipment for physical activities. Education level will also play a major role in making someone perform physical activities.

2. Individual Factor

Individual factors such as personality, emotion, intelligence, values and experience also contribute towards the involvement and success of participation in physical activities during the MCO. Staying at home for 24 hours will surely give some negative effects on one's physical and mental health. Physical activity can keep us fit and reduce our stress level. Values and experience will help someone maintain new things in life, especially the new norm, which has become our lifestyle since the COVID-19 outbreak.

3. Information factor

Knowledge, media and intervention influence the behavioural changes among the global population. People who have enough knowledge on the benefits of physical activities will find alternate ways to be physically active. They will search for new activities and the latest information to keep themselves fit and healthy, even though they are living in a limited space. The media have to be the information distributor, and keep updating people with the latest innovations and guidelines to encourage and motivate people to

continuously involve in physical activities. Theories and models regarding physical fitness, behaviour changes, personality and values should be highlighted frequently to enhance people's participation in any kind of physical activity.

Participation in physical activities during the MCO is a process of attitude and behavioural control. Ability and adaptation will encourage the sustainability of new behaviour towards a healthy lifestyle. This theory gives us a clear picture on how to start and sustain a new behaviour in a restricted situation. The interest to start and participate regularly in physical activities should come from oneself or the effort of a family. Encouragement and commitment, as well as doing it together with family members will be more effective compared to personal interest during the MCO. Setting the target, evaluating one's own abilities, controlling personal resources, adopting new beliefs, changing attitudes towards new behaviour, and controlling actions and reactions to sustain a new lifestyle will enhance physical fitness for a healthier life.

In short, the Theory of Planned Behaviour can be a perfect guidance if simplified according to our needs. Motivation and self-confidence will be the main contributors towards achievement, because we are living in a restricted situation for our betterment. The process of behavioural change is cyclical; thus, the chances of people typically moving back to the initial stage are unpredictable. It is quite common for people to skip the routine set by them in the early stages. Relapse to an unhealthy behaviour is considered a normal experience because individual differences, health status, facilities and support from family members will contribute to the stability of new behaviour. Being physically active should be our priority during the MCO, even though we have never been involved in any form of physical activity in our daily life before the COVID-19 pandemic. People can continue participating in physical activities efficiently to achieve their goal during the MCO if all these factors are controlled accordingly within our new norm for a new behaviour based on this theory.

CONCLUSION

Without a doubt, prolonged stay at home during the COVID-19 pandemic may have an unfavourable sequela, since such efforts to avoid transmission of the virus may lead to reduced physical activity. It is expected that this lengthy period of isolation will persuade someone to adopt sedentary behaviours such as spending excessive amounts of time sitting or lying down for screen activities (playing games, watching television), hence, lowering their energy dissipation. Principally, home-based yet regular physical activity programmes can provide opportunities for people to stay physically healthy by practising simple movements with low-moderate to high intensity levels. The best way to overcome physical inactivity associated with COVID-19 is to replace outdoors programmes with home-based or individualised or regular exercise programmes, such as bodyweight training and dance-based aerobic exercise. Indeed, being physically active is important for everyone, especially to maintain mental health and well-being during the state of quarantine. Insufficient physical activity can have detrimental effects on the bio-psychological health of individuals.

Given the concerns about the rising spread of COVID-19, it is crucial that infective control and safety precautions are strictly adhered to. Staying at home is a central safety measure that potentially helps in limiting the spread of this virus. Notwithstanding, prolonged quarantine can lead to behaviours that lead to increased physical inactivity with consequences in sedentary lifestyle, resulting in depression, anxiety and a range of chronic health conditions. Therefore, maintaining regular physical activities in a safe home environment is an essential strategy for healthy living during the COVID-19 crisis.

Chapter 4

Pandemic COVID-19: Impact of Online Learning among Students

Abdul Rashid Abdul Aziz, Azmawaty Mohamad Nor, Mohd Khairul Anuar Rahimi & Luqman Hakim Ahmad Shah

INTRODUCTION

The Coronavirus Disease 2019 (COVID-19) is a pandemic that originated from Wuhan, Hubei province, China (Huang, Wang, Li, & Ren, 2020). The pandemic has a major impact on the population across the globe and higher education is not spared from its effect, as all universities and colleges in Malaysia were ordered to close down to reduce the spread of COVID-19. The pandemic has interrupted the usual learning process in higher education, as the mode of education has to be changed into full online teaching instead of the usual blended learning (Nik-Ahmad-Zuky, Baharuddin & Rahim, 2020).

Online Teaching and Learning (T&L) through digital platforms has exploded some time ago in the education field. It has become an issue and discussion by various parties (Reggie, 2013). In Malaysia, the Malaysian Education Development Plan 2015-2025 through the Malaysian Ministry of Education has outlined 10 leaps to be achieved. One of those leaps is to drive continuous excellence in the system of higher education and online learning to the global level. This is to ensure the graduates that has been produced based on the value-added 'drive' in higher education can achieve the aspirations, success and competence in facing the changing and challenges of global environment. However, recent discussions on online T&L has become a hot issue for educators after the beginning of the new era in learning norms during COVID-19. In fact, the landscape of the education system is seen to change after the COVID-19 pandemic, which