

## PHYSICAL ACTIVITIES DURING MOVEMENT CONTROL ORDER AMONG GIFTED AND TALENTED STUDENTS

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**Received: 13 April, 2022    Accepted: 22 June, 2022    Published: 15 Sept, 2022**

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### ABSTRACT

*Physical activity is one of the forms of exercise that contributes to a healthy lifestyle. Physical activity must be done consistently so that fitness levels can be maintained. The practice of continuous physical activity has a good effect. Constraints of physical activity affect body fitness as well as long-term effects on individual health. The implementation of movement control orders implemented by the government has affected the involvement of individuals in performing physical activities especially involving outdoor movements. The purpose of this study is to examine the level and differences in the implementation of physical activities based on gender and location of gifted and talented (GnT) students. The study comprises of 42 males and 43 females; age 13 years old. Questionnaires were used for data collection. The finding revealed that 82.4% of student involved with physical activity and 58.8% choose housework as activity. Results also showed that there are 17.6% of the respondents felt unhappy to perform any physical activities. Using a univariate analysis, the study showed that there were 47.1% students in this study take 30 to 60 minutes per day and 36.5% 3 to 4 days per weeks doing physical activities. Using multivariate analysis, the study showed that there is significant difference in frequency when performing physical activities based on location among gifted & talented students ( $p < .05$ ). This shows that gifted & talented students are also aware of the need to do physical activities even during the Movement Control Order (MCO) period. Performing continuous physical activity not only maintains and enhances fitness but also forms intelligent emotions and minds.*

**Keywords:** *Gifted and Talented (GnT), physical activities, Movement Control Orders (MCO)*

## INTRODUCTION

Covid-19 outbreak has become the global health threat, with several countries has recorded devastating numbers of fatality due to the virus infections. On 11 March 2020, World Health Organization (WHO) has declared Coronavirus disease 2019 or better known as Covid-19 as a global pandemic. It is caused by novel coronavirus that can severely cause acute respiratory illness which leads to fatality. Millions of people around the globe have been infected and hundreds of thousands of fatalities recorded thus far. Not spared, Malaysia and its neighboring ASEAN countries. That has resulted the Malaysian Government to enforce Movement Control Order (MCO) throughout the country on March 18, 2020. In this period, most Malaysians have changed their daily routine, including their physical activity and exercise (Ss, Syarifah & Marathamuthu, Suresh, 2021). Almost all other than non-essential business were not allowed to operate and this gives a shock to the nation. This has resulted not only affecting many in terms of family earning but also the entire education systems. School children were reduced to only online classes including physical and health education.

National Sports Policy (2009) states that at the individual level, sport contributes to development of a positive character, self-realization and competitiveness; improvement of health and physical fitness through beneficial utilization of leisure time; stronger social interaction and mastery of basic and complex movement skills. Development of physical and moral qualities, it provides the opportunities and room to integrate the various communities into one united society to enhance the honors of the nation.

What is gifted and talented student? Gifted and talented (GnT) student is those who are exceptional in motor skill abilities in many activities and maintain a high level of physical fitness. Most of the GnT students have high intelligence quotient (IQ) (Gagne, 2004). GnT students have the ability to perform specific types of exercise, movement or activity to satisfy or to suite their individual needs. These exercises will make them more comfortable in adapting to the situation.

These days, health status indicates the lifestyle of an individual. Good health determines by one's productivity and indirectly increasing the chance to be success in life. Health is the main key to well-being because a healthy body can certainly play an active role in the development of religion, race and country (Widayati et al., 2017). Health problems such as exposure to chronic diseases resulting in deteriorating social structure and work productivity (Widayati et al., 2017).

Physical activity provides benefits during childhood and adolescence for immediate and future health (WHO, 2017). According to Loprinzi et al., (2012) physical activity also contributes in personal, social, emotional health and reduce chronic diseases.

World Health Organization defines physical activity as “*any bodily movement produced by skeletal muscles that requires energy expenditure*”. Examples of physical activities are walking, cycling, playing, weights lifting, doing homework and others (WHO, 2014). The benefit of being physically active have been well documented, including maintaining healthy body weight, reducing the risk of metabolic diseases, and improving musculoskeletal function (Ainsworth et al., 2020; Maugeri et al., 2020).

Regular physical activity can reduce the risk of heart disease, high blood pressure, osteoporosis, diabetes, cancer and obesity. A recent Malaysian Health and Morbidity survey indicates that about 50.1% of Malaysian adults are overweight or obese (Institute for Public Health, 2019). In addition, it can reduce stress and strengthen bones and muscles. Physically active individual has reduced risk of developing cardiovascular disease and ischemic stroke (Wannamethee & Shaper 2001 in Mohammed Goje et al. 2014), to improve immune functions and to have psychological benefits (Abreu et al., 2020). It should also be noted that obesity has been associated with the progression and severity of Covid-19 illness, often leading to death (Cai et al., 2020; Sattar et al., 2020)

According to the NCD (Operation of Non-Communicable Disease Services), physical activity is categorized as exercise and non-exercise. This physical activity has two main purposes, namely for cardiovascular and muscles strength. An example of an activity in the form of exercise is running, brisk walking, cycling, hiking, swimming, rope jumping, dancing and involve with any sports. For muscles strength are weight training, push up, sit up and chin up.

Physical movement and muscle strength for inactive people are doing such as house chores, gardening, walking, window shopping, washing car and sweeping. However, the frequency of doing activities that have high intensity can cause fatigue to the body and it has to be well planned so that the body has time to rest or recovery.

For example, doing cardio activities such as brisk walking, running, cycling or playing badminton exercises to strengthen muscles at least 3 times a week, to ensure the body have correct body figure, strong muscle and balanced strength. According to Theodorakis et al. (2002) in Mohammed Goje et al. (2014), physical activity is associated with higher level of self-esteem and lower level of anxiety and stress. Physical activity can improve mental health by decreasing and preventing conditions such as anxiety and depression, as well as improving mood and other aspects of well-being (Institute of Medicine, 2013).

According to the National Health and Morbidity Survey (2017), 1 in 2 adolescents are inactive in performing physical activity. Inactive student in physical activity is a worldwide health issue (WHO, 2011) and the fourth risk factor of death (WHO, 2020). These health issues such as obesity are detrimental to the well-being of individuals and pose a burden on public health to society (Fern Greenwell, 2014).

The pandemic problems plaguing the world are most likely to affect the inactivity of communities in performing physical activities which affected mental changes. Bortz (1984 in Ss, Syarifah & Marathamuthu, Suresh, 2021) stated that quarantine leads to physical inactivity, contributing to adverse mental and physical health changes. Another studies have shown that the duration of social isolation or quarantine can impact mental (Abreu et al., 2020; Hawryluck et al., 2004; Bai et al., 2004; Lee et al., 2005; Filgueiras and Stults-Kolehmainen, 2020) and physical health (Schwendinger & Pocecco, 2020).

The objective of this study is to assess the implementation of physical activities and to identify the level of physical activity during MCO among GnT student.

## METHODS

The study was conducted in Kolej GENIUS@Pintar Negara (KGPN), National University of Malaysia (UKM), Seremban Campus, formally known as Kolej PERMATApintar Negara. This Campus offering three foundation education for student between the age of 11 to 15 years old. The first intake for the new campus which accommodates GnT student was in 2020. These students will be continuously assessed and test throughout the educational year organized by the Genius center, UKM.

The study population were 85 respondents (N = 85) comprised of 42 male (n = 42) and 43 females (n = 43). A cross-sectional study was selected to determine the level of interest, type duration and frequency of doing physical activities. Next, this study also examines the reasons students are not interested in doing physical activities. According to American Heart Association, recommended level of physical activity is 30 - 60 minutes of regular exercise 3 - 4 times per week to promote cardiovascular fitness (American Heart Association) or daily expenditure of 150 kilocalories in moderate or in vigorous activities that is required to achieve good health (US DHHS, 2006). The independent variables in this study are gender and location of student residence.

The design selected for this study is a survey method using a quantitative approach. Respondent are required to complete a questionnaire distributed through Google Form. Questionnaire contains two parts; demographics and physical activities items. The items in the questionnaire are about the interest, type of physical activity performed, frequency duration of doing it and reasons why some of them do not involve or take part with physical activities during MCO.

Data was entered into statistical software using IBM-SPSS (statistical package for social sciences version 25). The data was analyzed using descriptive and inference analysis (T-test). The descriptive analyses used frequency and percentage. While inference analysis used mean, standard division and significance to show the value of result.

## RESULTS

The following are the findings obtained through descriptive and inference analysis that measures the level of interest, type, time period, frequency and reasoning for not doing any physical activity among GnT students.

### *Descriptive analysis*

Descriptive analysis was conducted to describe the level of factors studied. Table 1 presents descriptive analysis results, respondent (N=85). Students from urban area are (n = 56) compare to (n = 29) students from rural area.

*Table 1. Respondent's profile*

	n	%
<i>Gender</i>		
Male	42	49.4
Female	43	50.6
<i>Location</i>		
Urban	56	65.9
Rural	29	34.1

Table 2 shows the distribution of respondent by type of physical activities there are involved. A total 58.8% student like to do housework activities compares to others, gardening (7.1% students) and exercise (34.1%) (Mean = 1.75, SD = .937).

*Table 2. Type of activities*

Type	n	%	M	SD
Housework	50	58.8		
Gardening	6	7.1	1.75	.937
Exercise	29	34.1		
Total	85	100.0		

Table 3 shows the distribution of respondent by duration of physical activities there are implement. A total 40 respondent choose to do 30 – 60 minutes per day (47.1%) while for duration less than 30 minutes 32.9% and more than 60 minutes is 20% (mean = 1.87, SD = .720).

*Table 3. Duration time of activities*

Duration	n	%	M	SD
< 30 minutes per day	28	32.9		
30 - 60 minutes per day	40	47.1	1.87	.720
> 60 minutes per day	17	20.0		
Total	85	100.0		

Table 4 shows the distribution of respondent by frequency of physical activities there are implement. A total 31 respondent choose to do 3 – 4 times per weeks (36.5%). While 30.6% like to do 5-7 times per week, more 7 times per week (18.8%) and 1-2 times per week (14.1%).

*Table 4. Frequency of activity*

frequency	N	%	M	SD
1-2 times per week	12	14.1		
3-4 times per week	31	36.5	2.54	.958
5-7 times per week	26	30.6		
> 7 times per week	16	18.8		
Total	85	100		

From the total of respondent, 15 students not interested to do physical activity for any reasons. Table 5 shows the reason of student not doing physical activities. From the result shows that most student are not pleasure to do the physical activity (n = 8), 53.3%.

*Table 5. Reasons inactive in physical activities*

Reasons	n	%
I feel chest pain when doing physical activity	1	6.6
I will lose body balance after doing activities	1	6.7
I often feel dizzy after doing physical activity	1	6.7
I feel tired after doing physical activities	3	20
I have serious joint and bone problems when doing physical activity	1	6.7
physical activity did not give me pleasure	8	53.3
Total	15	100.0

### ***Inference analysis***

Based on Table 6, t-test analysis shows the mean score of interest for students by gender. The mean score of interest for male students is (mean = 1.15, SD = 0.358) while the mean score of female students is (mean = 1.20, SD = 1.20). A p value of more than 0.05 ( $p > 0.05$ ) means that there is no significant difference in students' interest in performing physical activities during the MCO period between the gender. Male and female students have the same interest in keeping the body healthy and fit.

*Table 6. T-test analysis of differences in interest by gender of gifted & talented students*

Interest	n	Mean	SD	F	t-value	Sig.
Male	41	1.15	0.358	1.987	-0.697	0.488
Female	44	1.20	0.408			

Based on Table 7, t-test analysis shows the mean score of interest for students by location. The mean score of interest for urban is (mean = 1.20, SD = 0.401) while the mean score of rural is (mean = 1.14, SD = 0.351). A p value of more than 0.05 ( $p > 0.05$ ) means that there is no significant difference in students' interest in performing physical activities during the MCO period between the location. Students from urban and rural areas have the same interests and still do physical activities with limited facilities.

*Table 7. T-test analysis of differences in interest by location of gifted & talented students*

Interest	n	Mean	SD	F	t-value	Sig.
Urban	56	1.20	0.401	1.898	0.693	0.491
Rural	29	1.14	0.351			

Based on Table 8, t-test analysis shows the mean score of type of physical activity for students by gender. The mean score of type of physical activity for male student is (mean = 1.76, SD = 0.943) while the mean score of female students is (mean = 1.75, SD = 0.943). A p value of more than 0.05 ( $p > 0.05$ ) means that there is no significant difference in students' type of physical activity during the MCO period between the location. Male and female students have similarities in choosing the type of physical activity to stay fit and healthy.

*Table 8. T-test analysis of differences in type of physical activity by gender of gifted & talented students*

Interest	n	Mean	SD	F	t-value	Sig.
Male	56	1.76	0.943	0.000	0.030	0.976
Female	29	1.75	0.943			

Based on Table 9, t-test analysis shows the mean score of type of physical activity for students by location. The mean score of type of physical activity for city student is (mean = 1.80, SD = 0.961) while the mean score of rural students is (mean = 1.66, SD = 0.897). A p value of more than 0.05 ( $p > 0.05$ ) means that there is no significant difference in students' type of physical activity during the MCO period between the location. Students from both urban and rural areas have similarities in the types of physical activities performed.

*Table 9. T-test analysis of differences type of physical activity by location of gifted & talented students*

Duration	n	Mean	SD	F	t-value	Sig.
Urban	56	1.80	0.961	2.508	0.705	0.483
Rural	29	1.66	0.897			

Based on Table 10, t-test analysis shows the mean score of duration time doing physical activity by gender. The mean score of duration time of doing physical activity for male students is (mean = 1.78, SD = 0.652) while the mean score of female students is (mean = 1.95, SD = 0.776). A p value of more than 0.05 ( $p > 0.05$ ) means that there is no significant difference in students' duration time doing physical activity during the MCO period between the gender.

*Table 10. T-test analysis of differences in duration time of doing physical activity by gender of gifted & talented students*

Interest	n	Mean	SD	F	t-value	Sig.
Male	42	1.78	0.652	0.648	-1.122	0.285
Female	43	1.95	0.776			

Based on Table 11, t-test analysis shows the mean score of duration time of doing physical activity by location. The mean score of duration time doing physical activity for urban area is (mean = 1.80, SD = 0.672) while the mean score of rural area (mean = 2.00, SD = 0.802). A p value of more than 0.05 ( $p > 0.05$ ) means that there is no significant difference in students' duration time doing physical activity during the MCO period between the location.

*Table 11. T-test analysis of differences in duration time of doing physical activity by location of gifted & talented students*

Interest	n	Mean	SD	F	t-value	Sig.
Urban	56	1.80	0.672	0.601	-1.130	0.264
Rural	29	2.00	0.802			

Based on Table 12, t-test analysis shows the mean score of frequency of doing physical activity by gender. The mean score of for male students is (mean = 2.46, SD = 0.925) while the mean score of female students is (mean = 2.61, SD = 0.993). A p value of more than 0.05 ( $p > 0.05$ ) means that there is no significant difference in students' frequency of doing physical activity during the MCO period between the gender.

*Table 12. T-test analysis of differences in frequency of doing physical activity by gender of gifted & talented Students*

Frequency	n	Mean	SD	F	t-value	Sig.
Male	42	2.46	0.925	0.444	-0.722	0.472
Female	43	2.61	0.993			

Based on Table 13, t-test analysis shows the mean score of frequency of doing physical activity by location. The mean score of frequency for male students is (mean = 2.38, SD = 0.926)



while the mean score of female students is (means = 2.86, SD = 0.953). A p value of more than 0.05 ( $p > 0.05$ ) means that there is no significant difference in students' duration time doing physical activity during the MCO period between the location.

*Table 13. T-test analysis of differences in frequency of doing physical activity by location of gifted & talented Students*

Frequency	n	Mean	SD	F	t-value	Sig.
Urban	56	2.38	0.926	0.003	-2.277	0.025
Rural	29	2.86	0.953			

## DISCUSSION

The findings of the study found that 82.4% were interested in doing physical activity during MCO period, while the rest were not interested with the main reason being that physical activity did not give them pleasure (53.3%) and 20% they felt tired when doing it. However, it is fact that performing physical activity consumes energy and may cause fatigue after exercising. Fatigue is less felt when individuals have fun doing it and can be a good practice for a healthy lifestyle. Deliens et al. (2015) concludes that interest factors are interrelated with student lifestyles.

This shows that gifted and talented students are aware of the importance of doing physical activities. Gifted and talented students not only have high cognitive value in academics but also understand the benefits as well as healthy practices.

The findings also show that gifted and talented students are more likely to do household chores as their form of physical activities such as tidying up, wiping the floor, sweeping garbage and so on, which is 58.8%. This was followed by 34.1% exercise and 7.1% gardening. Exercising students' life will be more prosperous, quality and less susceptible to disease (Lim et al. 2016). Doing physical activities not only relieves stress but also helps improve students' ability through social, emotional, cognitive and JERIS activities (Eleanor et al. 2014). The practice of doing physical activity at an early age of adolescence should be done continuously because according to Gunathevan (2012), adolescence stage is the most critical stage in the formation of habits that continue into adulthood.

The results of this study showed, there is no significant differences of interest factors, type of activity, duration time and frequency of activity based on gender and location. Compared to studies Bergier, Tsos & Bergier (2014) noted a large gap of frequency between male and female student in physical activity participation. In line with other studies, the Italian study also found that males were significantly impacted by movement controls (Maugeri et al., 2020). While study by Ss, Syarifah & Marathamuthu, Suresh (2021), reported that during the MCO period, females demonstrated more positive behaviour towards physical activity and exercise as compared to males. This may be related to other findings showing that male's exercise determinant is "enjoyment" (Abreu et al., 2020) and could be due to an essential change in everyday schedules and habits (Maugeri et al., 2020). The previous study conducted in Malaysia has also shown that men tend to find "enjoyment" in competitive sports, attempting to master techniques, overcome challenges and gain strength (Molanorouz et al., 2015).

The finding from this study showed, the respondents were students who had high IQ who were able to assess the benefits of performing physical activity continuously even in the MCO situation.

Furthermore, the results of this study found that there are significant differences in the frequency of physical activity based on location. Students from urban areas have higher commitment compared to students from rural areas based on the mean score. But other findings by Bergier, Tsos & Bergier (2014) recorded those students living in rural areas are more active than those living in cities. Rohani et al. (2010) reported that in general students from rural areas showed higher commitment than urban school students. The main features of respondents in the study like to explore methods of doing effective physical activity despite being at home.

## CONCLUSION

GnT students have high cognitive advantage. This advantage encourages them to evaluate physical activity as a benefit and should be practiced continuously. Doing physical activity not only affects the social values but also the well-being of the individual. Current Finding by Ss, Syarifah & Marathamuthu, Suresh. (2021), Physical activity and exercise are important preventative strategies during the pandemic because they have a profoundly positive impact on physical and mental health. In addition, physical activity found to improve the immune system, which is the best prevention method during a pandemic. While, Syed et al. (2018) stated that students' knowledge of the importance of physical activity is good when realizing that it benefits the individual such as controlling weight.

Based on the analysis of the study, GnT students showed a high interest in doing physical activities during the MCO period compared to those who were not interested in doing so. The main reasons for students not doing any physical activity are due to “*not fun*” and “*tired of doing it*”. Isolated / remote / unique excuses are minimal health problems such as dizziness and loss of balance.

Based on these findings, it is clear that GnT students have high awareness of personal health. The Government has declared that the Movement Control Order which started on 18 March 2020 has affected the daily activities of students both in academics and daily routines. However, GnT students still do physical activities 3-4 times a week for 30 - 60 minutes to maintain their fitness. Doing household, such as tidying up, wiping windows, floors, throwing garbage, washing cars, burning garbage and others are activities that GnT students do. The MCO period gives them plenty of time to plan activities and manage time space accordingly. This coincides with a study by Syed et al., (2018), reporting that a large number of students admitted that they have time to do physical activity which is 83.6%.

### ***Author's contribution***

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Siti Nazariah Abdul Razak - contributions to conception, design and drafting the article, acquisition, analysis and interpretation of data, revising it critically for important intellectual content and writing manuscript layout

Tajul Arifin Muhamad -given final approval of the version to be published

Wan Rezawana Wan Daud - organized and managed to distribute the questionnaires, agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

### ***Conflict of Interest***

This article 'Physical Activities During Movement Control Order Among Gifted and Talented Students' has no relationship with my job scope nor my workplace. This study is purely academic with sampling taken from a group of students. We as the authors of this article declare that we have no conflict of interest.

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