

The Level of Physical Activity and the Constructs of Social Cognitive Theory in Students Faculty of Sport Science, State University of Makassar In the New Normal Covid-19 Era

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Abstract

Social restrictions in the Covid-19 Pandemic era today have the potential to affect the level of physical activity of the community, including FIK UNM students. The main purpose of this study was to determine the pattern, level and status of students' physical activity and whether there were different physical activity statuses of students with different social cognitive theory construct statuses. This research is a cross-sectional observational study on 102 people who are active students of FIK UNM who are carrying out distance learning in the midst of the COVID-19 pandemic in full. The research sample was taken by convenience sampling method with the criteria of students filling out online forms that were sent distributed through the Student Association (HIMA) of each Study Program. Physical activity is measured by the Global Physical Activity Questionnaire (GPAQ) instrument. The social cognitive construct was measured using an adaptation instrument from the WHO's COVID-19 Snapshot and Monitoring (COSMO) which includes self-efficacy, self regulation, outcome expectation and social support. Descriptive analysis is used to describe the physical activity patterns of FIK UNM students. The results showed that the physical activity patterns of FIK UNM students tended to be high on average in the recreational activity domain (11279.52 Mets / week), followed by the work activity domain (497.35 Mets / week), and transportation (373.46 Mets / week). Students with better cognitive social status levels have higher levels of physical activity than students with poor cognitive social status. It can be concluded that students with good social cognitive status have a good level of physical activity as well.

Keywords: Social Cognitive Theory Construct, Physical Activity Level, New Normal Era COVID-19

Introduction

Common efforts to improve the immune system include the consumption of balanced nutrition, adequate rest, consumption of vitamin supplements, not smoking, and controlling comorbidities such as diabetes mellitus, hypertension, cancer, and regular and measurable physical activity (Peeri et al. , 2020). Immunity can be easily increased by physical activity or sports, the increase in immunity is determined by the intensity and duration of physical activity (Sukendra, 2015). Research has shown that physical activity, especially moderate to heavy intensity, carried out in 60 minutes can increase the antipathogenic activity of tissue macrophages (Peake et al., 2017). Other than that, Physical activity carried out regularly can reduce cortisol levels, which is a stress hormone that can suppress immune cell function and can increase the body's resistance to

bacterial and viral infections (Simpson & Katsanis, 2020). The recommended intensity of physical activity for optimal health benefits is moderate to severe. The recommended physical activity for children and adolescents is at least 60 minutes per day while in adults (aged > 18 years) it ranges from 150 to 300 minutes per week at moderate intensity and 75 to 150 minutes per week at heavy intensity (Piercy et al. , 2018). The recommended intensity of physical activity for optimal health benefits is moderate to severe. The recommended physical activity for children and adolescents is at least 60 minutes per day while in adults (aged > 18 years) it ranges from 150 to 300 minutes per week at moderate intensity and 75 to 150 minutes per week at heavy intensity (Piercy et al. , 2018). The recommended intensity of physical activity for optimal health benefits is moderate to severe. The recommended physical activity for children and adolescents is at least 60 minutes per day while in adults (aged > 18 years) it ranges from 150 to 300 minutes per week at moderate intensity and 75 to 150 minutes per week at heavy intensity (Piercy et al. , 2018).

As part of efforts to prevent the spread of COVID-19 in the current new normal era (new normal) COVID-19, social restriction policies are still being implemented in various regions in Indonesia. The public continues to be demanded to continue to carry out health protocols to prevent transmission of COVID-19, physical distancing, and minimize crowds to avoid new clusters of COVID-19 transmission. This condition makes physical activity or sports difficult to do in the new normal era and can have an impact on decreasing physical activity of adolescents who tend to engage in communal physical activity.

Students of the Faculty of Sport Science, State University of Makassar (FIK UNM) are among those who are quite affected by the social restrictions and policies on online lectures. A survey conducted on students of the Sports Science study program class of 2018 with 46 student respondents showed the results that 75% of students experienced obstacles in carrying out physical activities in the new normal era (new normal) COVID-19, further 75% of students stated that they were unable to carry out activities physical activity regularly, and 87.5% of students stated that they were not confident or worried about doing physical activities in the new normal era (new normal) COVID-19 today. However, so far it has not been known the level of physical activity of adolescents, especially among FIK UNM students. This is important considering that in the current era of the COVID-19 Pandemic where practical lectures were canceled until October 2020, and began to be held in November specifically for students domiciled in South Sulawesi Province. With these restrictions, it is necessary to conduct a survey of the physical activity of FIK UNM students in the new normal era.

Furthermore, it is necessary to know the factors related to physical activity and physical activity status of FIK UNM students which are "sufficient" and "insufficient" to be used as study material to develop forms of support to increase the status of the adequacy of physical activity. In this case, Social Cognitive Theory has been widely used to explain and estimate the behavior of physical activity in various settings, so that it has the potential to explain the behavior of a person's physical activity.

The main constructs that underlie a person's behavior based on Social Cognitive Theory are: self-efficacy, outcome expectation, self regulation and social support. Self-efficacy in this case is a person's belief to continue to do physical activity regularly despite obstacles and challenges in every situation faced in this situation of social restrictions. The outcome expectation in this case is someone's expectation about the positive things that will be obtained by regular physical activity. Self-regulation is the ability of individuals to set target achievements and themselves in doing something in the midst of the COVID-19 pandemic, which in this case is related to the regulation of physical activity (Renner & Schwarzer, 2005). Social support is social support,

So far it is not known whether the physical activity level of FIK UNM students is different at different social cognitive construct status. This information is needed for programming the promotion of physical activity among FIK UNM students based on social cognitive theory. In this case, programming for the promotion of physical activity certainly needs to be based on the factors that are found to be related to the physical activity status of FIK UNM students.

Therefore, this study aims to map patterns of physical activity and see whether there are differences in physical activity levels at different social cognitive statuses. Furthermore, it is hoped that the research results can be used by policy makers as a basis for promoting the physical activity of adolescents in the new normal era.

Literature Review

Common signs and symptoms of COVID-19 infection include acute respiratory symptoms such as fever, cough and shortness of breath. The average incubation period is 5-6 days with the longest incubation period of 14 days. Severe cases of COVID-19 can cause pneumonia, acute respiratory syndrome, kidney failure and even death. The clinical signs and symptoms reported in most of the cases were fever, with some cases having difficulty breathing, and the X-ray showed a large pneumonia infiltrate in both lungs. (Ministry of Health of the Republic of Indonesia, 2020).

At the community level, the effective prevention of transmission of COVID-19 is by carrying out social restrictions, physical distancing which is carried out by adjusting the distance between one person and another, working from home, studying from home, avoiding crowds and reducing traveling if it is not too important. At the individual level, prevention of COVID-19 transmission can be done by implementing a clean and healthy lifestyle (PHBS), diligently washing hands with soap using running water for at least 20 seconds, using a mask when traveling, applying ethics when coughing or sneezing by covering your mouth or nose. with sleeves, do not touch the eyes, mouth and nose, and routinely clean houses or objects that are frequently touched using disinfectants (Ministry of Health of the Republic of Indonesia, 2020).

Social restrictions are an effective transmission prevention measure, because COVID-19 can be transmitted through droplets obtained from close interaction or touching objects contaminated with COVID-19 (Indonesian Ministry of Health, 2020). Social restrictions ranging from regulating distance from each other, avoiding crowds, and restricting the use of public transportation are carried out to suppress the spread of COVID-19 transmission, even in Indonesia some areas have implemented large-scale social restrictions (PSBB). Social restrictions on the other hand limit human activities, work from home and suggestions to stay at home directly change the patterns and behavior of human activities.

The immune system is a system in the body which is a means of self-defense against various types of diseases or viruses that enter the human body. A person's immunity in dealing with disease depends on the strength of the body's immune system, a strong immune system will prevent a person from being attacked by various types of diseases or viruses. There are various ways to maintain or increase body immunity, including by taking vitamin supplements, getting enough rest or by exercising regularly.

Passive and sedentary lifestyles are one of the causes of decreased immunity. In the current era of the COVID-19 pandemic, social restrictions are being implemented which are an effort to prevent the transmission of COVID-19 making physical activity even more limited. Meanwhile, one way to maintain and increase body immunity is to exercise regularly. Light physical exercise is more beneficial for immune function when compared to just doing activities in the form of sitting / not doing any activity. Immunity can be easily increased by doing physical exercise / exercise as well as getting enough rest and sleep.

The recommended sport as an effort to increase body immunity is moderate intensity exercise. Moderate intensity exercise, if carried out regularly, will have a positive effect in increasing body immunity. The response from exercising or doing regular physical activity can affect immune cells, such as: neutrophils, antigen presenting cells (APC), natural killer cells (NK cells), and lymphocytes as well as on cytokine production (Widiastuti, 2020). According to Achmad (2020), moderate intensity physical activity is physical activity with a duration of 30-60 minutes and is carried out regularly 3-5 times a week. Examples of moderate physical activity that are safe to do during the COVID-19 pandemic include cycling, staying at home, yoga, jogging, and exercising.

One of the ways to prevent the transmission of COVID-19 can be done individually, namely by applying a clean and healthy lifestyle (PHBS) and increasing immunity. Immunity or immunity in the human body is the body's ability to fight various pathogenic microbes (Sukendra, 2015). Increasing immunity can be done by consuming balanced nutrition, adequate rest, vitamin supplements, not smoking, controlling comorbidities such as diabetes mellitus, hypertension, cancer and doing balanced physical activity (Peeri et al., 2020). According to Sukendra (2015), immunity can be easily increased by doing physical exercise or exercise as well as adequate rest and sleep.

In the new normal era, humans are required to be able to adapt to changes in new life patterns, carry out activities while still carrying out health protocols to prevent the transmission of COVID-19, namely by maintaining distance, social distancing or physical distancing, avoiding crowds, limiting physical activity outside the room, and facilities. general. This condition will directly affect changes in the behavior of human physical activity and the level of human physical activity in the new normal era.

The level of physical activity in general can be measured in two ways, namely by means of subjective self-reports or with objective measures. Participants can be asked to recall and describe their level of physical activity (type, frequency, and duration) in the last few weeks to measure physical activity subjectively, while to measure physical activity objectively can use a pedometer or accelerometer. The level of subjective physical activity is defined as the memory of the frequency of physical activity, the time and the type of activity carried out by an individual during a certain period. At the population level physical activity instruments are used such as the International Physical Activity Questionnaire (IPAQ), the Global Physical Activity Questionnaire (GPAQ), and the Active Australia Survey (AAS).

Social cognitive theory is a theory that emphasizes that most human learning occurs in the social environment. By observing other people and the human environment, they will gain knowledge, skills, strategies and be able to adjust their attitudes and behavior, then humans act according to their beliefs, abilities and expected results (Yanuardianto, 2019). The main essence of social cognitive theory is that human behavior is influenced by anticipated consequences (Alwisol, 2006).

Social cognitive theory affects various fields, one of which affects the behavior of a person's physical activity, the construct of social cognitive theory will affect behavior according to the conditions and circumstances experienced by that person, such as during the current new normal (new normal) COVID-19. Research shows that one of the things that causes someone to be unable to comply with government recommendations such as physical distancing, diligently washing hands, increasing immunity, wearing masks, and working from home during the COVID-19 pandemic in Indonesia is based on cognitive bias (Buana, 2020).

Self-efficacy in this case is a person's belief to continue to do physical activity regularly even though they face obstacles and challenges in every situation at hand, Outcome expectation is a person's positive hope for a reality that will occur in the future, Self-regulation is the ability individuals in setting target achievements and themselves in doing something in the midst of the COVID-19 pandemic (Renner & Schwarzer, 2005), and social support is social, family or environmental support that will affect individual behavior in physical activities during the current COVID-19 pandemic. this (Adicondro et al., 2012).

Methodology

This study is a cross-sectional observational study to see the level and status of physical activity and its relationship with the constructs of social cognitive theory (self-efficacy, outcome expectation, self-regulation and social support) among students of the Faculty of Sport Sciences, State University of Makassar in the new normal era (new normal). Analytical observational research was carried out by making observations, without any treatment from the researcher. Data collection was carried out online for students of the 2019 Faculty of Sport Sciences at Makassar State University who were doing online lectures in the full new normal era. At a vulnerable time

from August-September 2020. The population in this study were all active students of the Faculty of Sport Sciences, Makassar State University strata 1 class 2019. The number of samples was 102 people who were taken by purposive sampling method or sampling technique with certain considerations. The instrument used was the GPAQ (Global Physical Activity Questionnaire) questionnaire developed by WHO for surveillance of physical activity in various countries, collecting information on physical activity participation in three domains (work, active travel, and recreation), and sedentary behavior. Descriptive analysis is used to describe the physical activity patterns of FIK UNM students. Different test using the Mann-Whitney Test was conducted to determine the level of physical activity at different social cognitive status. The number of samples was 102 people who were taken by purposive sampling method or sampling technique with certain considerations. The instrument used was the GPAQ (Global Physical Activity Questionnaire) questionnaire developed by WHO for surveillance of physical activity in various countries, collecting information on physical activity participation in three domains (work, active travel, and recreation), and sedentary behavior. Descriptive analysis is used to describe the physical activity patterns of FIK UNM students. Different test using the Mann-Whitney Test was conducted to determine the level of physical activity at different social cognitive status. The number of samples was 102 people who were taken by purposive sampling method or sampling technique with certain considerations.

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Findings and Discussion

1) Physical Activity Patterns

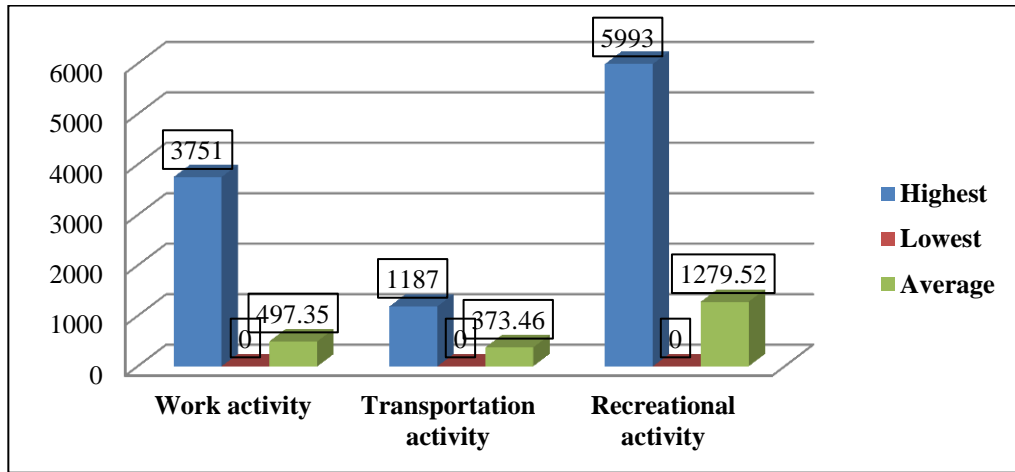


Figure 1. Physical Activity Patterns of FIK UNM Students

The physical activity patterns of FIK UNM students can be seen in Figure 1 above. The average FIK UNM students in the work activity domain have a physical activity level of <600 Meters / Week, namely 497.35, with the highest number 3751 MeTs / week, and the lowest number 0 MeTs / week. In the domain of transportation activity, the level of physical activity of FIK UNM students shows a number <600 MeTs / week, namely 373.46, with the highest number of 1187 MeTs / week, and the lowest number of 0 MeTs / week. Whereas in the domain of recreational activity the average level of physical activity of FIK UNM students is > 600 MeTs / week, namely 1279.52, with the highest activity level at 5993 MeTs / week, and the lowest at 0 MeTs / week.

Data analysis of the physical activity patterns of FIK UNM students based on gender shows the results, for male sex, the highest level of physical activity is 9470 MeTs / Week, the lowest is 0 MeTs / Week, and the average physical activity level of men is equal to 2379.36 MeTs / Week. The female gender shows that the highest level of physical activity is at 5755 MeTs / week, the lowest is 345 MeTs / week, and the average physical activity level for women is 1933, 19 MeTs / week.

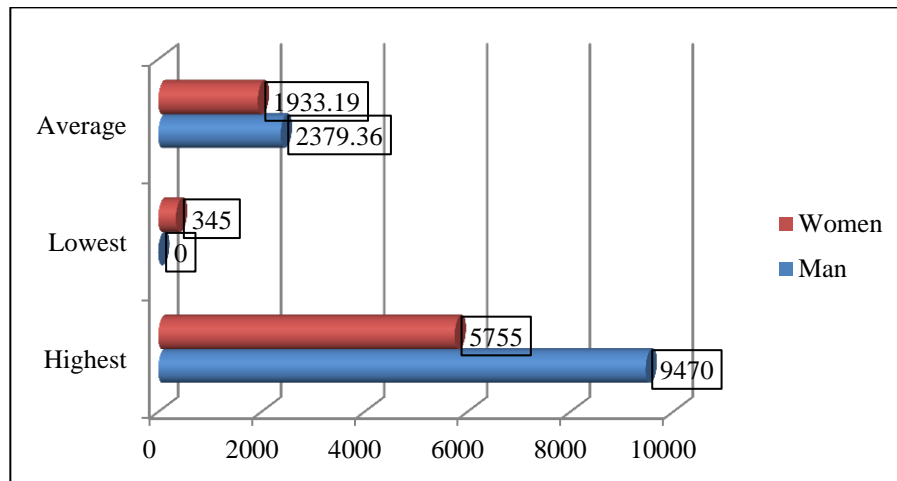


Figure 2. Physical Activity Patterns Based on Gender

2) Students' Physical Activity Level Based on Social Cognitive Status

Based on Table 1, it is known that all the normality test results above are not normally distributed. Therefore, a non-parametric statistical test will be carried out using the Mann-Whitney Test to determine whether there is a difference between the physical activity levels of FIK UNM students based on the social cognitive theory construct status which includes Self Efficacy, Social Support, Outcome Expectation, and Self regulation.

- a. Statistical data analysis using the Mann-Whitney Test shows that respondents who have high self-efficacy have a better level of physical activity (mean rank = 62.22) than respondents who have low self-efficacy in doing physical activity (mean rank = 28.05) significantly with $p = 0.001$.
- b. Statistical data analysis using the Mann-Whitney Test shows that respondents who have high self-regulation also have a better level of physical activity (mean rank = 60.98) than respondents who have low self-regulation in doing physical activity (mean rank = 22.3) significantly with $p = 0.001$.
- c. Statistical data analysis using the Mann-Whitney Test shows data that respondents who get social support have a better level of physical activity (mean rank = 61.88) compared to respondents who don't get social support in doing physical activity (mean rank = 34.03) significantly with $p = 0.001$.
- d. In this study, the outcome expectation is the hope or belief that physical activity increases the immune system. Statistical data analysis using the Mann-Whitney Test shows that respondents who believe that exercise improves the immune system have a better level of physical activity (mean rank = 59.26) than respondents who do not believe that exercise increases immunity (mean rank = 19.68) significantly. where $p = 0.001$.

In the policies in the new normal era, people are allowed to carry out normal activities by implementing strict health protocols. But specifically in the field of education at all levels of educational institutions in Indonesia it is still carried out online (online). With the existence of several policy changes since the application of social restrictions to the new normal era, it is very possible to change the behavior of physical activity⁵ in society, especially among adolescents, in this case students in the new normal era (new normal). This research was conducted in August-September 2020. The total number of respondents who successfully filled out the online questionnaire form was 102 students. Thus, this number has met the required number of research samples. Overall respondents are active students of FIK UNM as evidenced by the student email used when logging into the google form which is one of the requirements for filling in the google form in this study. In the process of filling out the questionnaire via google form, which is carried out online, respondents are given freedom of duration in filling in questions and no assistance is provided during the process of filling out the questionnaire.

At the time of carrying out this research, FIK UNM students were carrying out online lectures on all courses taken, both theoretical courses and practical courses that could be carried out independently by students from their respective homes. Meanwhile, the percentage between theory and practice in the subjects taken by FIK UNM students depends on the study program and semester level of the student. In general, students with semesters between one and five semesters will be more dominant in taking practical courses.

The purpose of this study was to determine the physical activity patterns of FIK UNM students in the new normal era and to find out whether there are differences in the physical activity levels of FIK UNM students at different social cognitive statuses. The overall data analysis shows that the FIK UNM students in the domain of work activities and transportation activities in the new normal era have an average level of physical activity in the low category, while the physical activity patterns of FIK UNM students tend to be fulfilled in the activity domain. recreation. Furthermore, research also shows that someone who has a social cognitive theory construct level includes Self Efficacy, Self Regulation, Outcome Expectation,

Previously, research on the level of physical activity of FIK UNM students before the COVID-19 pandemic was conducted, Sudibjo's (2015) research conducted on sports coaching education (PKO) students showed that one of the results was Sports Coaching Education (PKO) FIK UNY students. have a sufficient level of physical activity. The results of this study show the same results and support that there is no difference in the level of physical activity of FIK UNY students before the COVID-19 pandemic and during the COVID-19 pandemic or the current new normal era. Other research results that show the same results are Barwais' research (2020) on the people of Saudi

Arabia who are implementing lockdowns showing the same results where there is no difference in the level of physical activity before the COVID-19 pandemic and during the COVID-19 pandemic for the community. Those who do physical activity accompanied by a personal trainer, but show a significant decrease in the level of physical activity for people who are active alone, with friends, or family. The difference in the results of this study can be influenced by internal and external factors, research conducted by Daskapan (2006) on undergraduate students in Turkey regarding perceived barriers for physical activity showed that the inhibiting factors for physical activity came from internal and external. Each individual puts physical activity on a different priority scale. Respondents are sports students and some FIK UNM students are athletes in certain sports, and as a sports student and an athlete, it is very possible to put physical activity as a top priority.

The construct of socio-cognitive theory affects various fields related to the COVID-19 pandemic. Research conducted by Paykani (2020) on the relationship between social support and compliance in implementing the recommendation to stay at home shows the results that there is a significant relationship between support from family, friends, or others in compliance with the recommendation to stay at home during the pandemic. COVID-19. This is also reinforced by Daharnis (2018) in his research that there is a significant relationship between self-efficacy, self-regulated and social support. There are several possible factors that could influence the results of this study.

These incidents allow the community, especially respondents to increase physical activity in the new normal era (new normal) which is directly influenced by self-efficacy, self-regulation, outcome expectations and social support from each individual in facing all kinds of social factors during the COVID-19 pandemic. -19. Another factor that can influence the results of this study is that respondents are sports students who are accustomed to physical activity or exercising in their daily life, because of the needs or demands of lectures so that FIK UNM students have a sufficient level of activity in the new normal era (New Normal) COVID- 19.

The results of this study indicate that the construct of social cognitive theory which includes Self Efficacy, Self Regulation, Outcome Expectation, and Social Support affects the level of physical activity. A person with a good social cognitive level will have a sufficient level of activity, on the other hand, a person with a poor social cognitive level will have a less physical activity level. Therefore, it is hoped that this research will become the basis for policy makers to promote physical activity in the new normal era of COVID-19 today.

Conclusion

Based on the results of data analysis and hypothesis testing as a whole, the results of this study can be concluded as follows: 1) The physical activity patterns of FIK UNM students are mostly in the recreation domain, followed by the work domain and the transport domain. 2) The level of student physical activity is higher in students who have better self-efficacy, self regulation, outcome expectations, and social support.

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