

# A Cross-sectional Study on Self-Determined Motivation Towards Physical Activity Among Healthcare Professionals at a Tertiary Hospital in Makati

Hesusa Maria S. Vista, MD

**Background:** According to the World Health Organization, in 2016, there were more than 1.9 billion adults who were overweight. Of these, over 650 million were obese. Physical inactivity is one of the major risk factors for several non-communicable diseases. Healthcare workers who have direct contact with patients often influence their behaviors. However, health care workers who educate their patients but they themselves do not practice what they recommend, may be one of the barriers that can affect patient education and influence.

**Objective:** This research paper aimed to investigate the motivation to participate in physical activity among healthcare workers and to determine the association between the profile of respondents with the different types of motivation.

**Methods:** There was a total of 250 randomly selected respondents who were included in the study. Data were gathered through a self-administered questionnaire utilizing the International Physical Activity Questionnaire-Short Form (IPAQ-SF) and the Behavioral Regulation in Exercise Questionnaire (BREQ-2). Descriptive statistics was used to summarize sociodemographic information, physical activity levels and BREQ-2 profiles. T-test was used to analyze differences in gender while analysis of variance (ANOVA) was used for levels of physical activity and professional category.

**Results:** Female healthcare professionals have a higher average in amotivation (mean=0.56) while males have a higher average in intrinsic (mean=2.82) motivation. Nurses and ancillary services have higher average amotivation scores than physicians.

**Conclusion:** Health care workers who have high classification in physical activity have the highest average scores in terms of relative autonomy index, introjected, identified, and intrinsic scores. This demonstrates a positive association between motivation from internal regulation and increased physical activity.

**Key words:** Motivation, physical activity, healthcare workers

## INTRODUCTION

According to the World Health Organization, in 2016, there were more than 1.9 billion adults who were overweight. Of these, over 650 million were obese. Overall, about 13% of the world's adult population (11% of men and 15% of women) were obese.<sup>1</sup> In the Philippines, data showed that between July 2021 and June 2022, 38.6% of adults aged 20-59 in the Philippines were diagnosed as obese or overweight.<sup>2</sup>

Obesity is considered a public health issue affecting millions of people globally<sup>3</sup> and is the epidemic of the 21st century.<sup>4</sup>

Unfortunately, due to the restrictions during COVID-19 pandemic, physical activity has significantly declined. Working from home was preferred and this encouraged a more sedentary behavior. Sport facilities, gyms and parks were also mandated to close thus making opportunities to be physically active difficult to access.<sup>5</sup> Physical inactivity is one of the major risk factors for several non-communicable diseases plaguing society such as coronary heart disease, type 2 diabetes mellitus and certain types of cancers.<sup>6</sup>

There are readily available questionnaires online that may be used to measure the level of physical activity. The International Physical Activity Questionnaire - Short Form (IPAQ-SF) has been recommended

Department of Family and Community Medicine, Ospital ng Makati

as a cost-effective method to assess physical activity. It classifies one's level of physical activity to highly active, moderately active and low or inactive.<sup>7</sup> It has been noted that motivation affects physical activity and one's adherence to exercise. To promote physical activity as an important component of health promotion and disease prevention, one should understand the factors that influence participation and motivation to start and maintain this as part of a healthier lifestyle.<sup>8</sup> The self-determination theory is a theory of human motivation and its role on how one decides on a choice. It gives importance to the person's reasons for being motivated in achieving their goals, their success and the outcome that arises from achieving these goals. The regulation of physical activity based on this theory can be amotivated, intrinsically or extrinsically.<sup>9</sup> Complex individuals are rarely driven by only one type of motivation. Different goals and desires dictate want and need. Thus, it is useful to think of motivation on a continuum ranging from "non-self-determined to self-determined." At the left end of the spectrum is amotivation, in which an individual is completely non-autonomous. These individuals have no drive to speak of and is struggling to have any of their needs met.<sup>10</sup> Amotivation is the lack of interest or intention to participate in the activity.<sup>9</sup> One step to the right of amotivation is external regulation, in which motivation is exclusively external and regulated by compliance, conformity, and external rewards and punishments.<sup>10</sup> Extrinsic motivation is when a person engages in the activity due to external factors. Persons who are extrinsically motivated may at times feel pressured to do the activity they do not enjoy in order to achieve an outcome.<sup>9</sup> The next level of extrinsic motivation is termed introjected regulation, in which the motivation is somewhat external and is driven by efforts to protect the ego, self-control and internal rewards and punishment.<sup>10</sup> Next to introjected regulation is identified regulation. With identified regulation, the motivation is somewhat internal. It is based on conscious value and one is motivated based on what is personally important to him. Intrinsic motivation on the other hand refers to engaging in the activity for its own sake. Persons who are intrinsically motivated find the physical activity interesting and enjoyable thus engaged willingly.<sup>9</sup> It is driven by interest, enjoyment and satisfaction.<sup>10</sup> External regulation and introjected regulation are viewed as controlled types of behavioral regulation, whereas identified and intrinsic motivation represents an autonomous type of behavior regulation.<sup>9</sup>

The Behavioral Regulation in Exercise Questionnaire (BREQ) was developed by Markland and Tobin in 2004 as a self-report measure to assess self-determined motivation for exercise. Self-determined motivation for exercise stems from the self-determination theory, which expounds on the nature of motivation directing physical activity and exercise behavior.<sup>11</sup> The Relative Autonomy index is one of the most popular scoring methods to demonstrate the value of self-determination theory that the level of autonomous motivation is essential in predicting outcomes. It justifies that each type of motivation is predictably ordered and can be classified as either positive or negative with external and introjected regulation reducing the degree of autonomy and identified and intrinsic motives increasing the level of relative autonomy. This index estimates the overall degree of relative autonomy.<sup>12</sup>

Advice on physical activity in the primary health care setting is an effective tool to promote a healthier lifestyle. However, the

motivation to do so varies from person to person and thus, considering the differences in motivation may greatly help in developing strategies to promote long term adherence to physical activity.<sup>8</sup> Additionally, healthcare professionals who adopt a healthy lifestyle themselves act as more credible role models and are more likely to promote and counsel their patients on the benefits of physical activity.<sup>13</sup> Healthcare workers who have direct contact with patients often influence their behaviors and are usually the ones patients look up in term of health practices. However, health care workers who educate their patient on a healthy lifestyle but they themselves do not practice, may be one of the barriers that can affect patient education and influence.<sup>14</sup> Health-care workers (HCWs) should be role models who increase community awareness of obesity prevention and encourage patients to change their behavior towards a healthy lifestyle.

There is little research on the differences in motivation and level of physical activity across healthcare professionals here in the Philippines. Thus, this study was conducted to assess the physical activities of healthcare workers and determine their motivation to do physical activity. This gives an invaluable insight on how one can internally improve and promote a healthier lifestyle among healthcare workers practicing in the hospital setting.

The study aimed to determine the motivation to participate in physical activity among healthcare workers employed in a hospital setting.

## METHODS

### Study Design

A cross-sectional study was implemented in determining the motivation to participate in physical activity among healthcare workers employed in a hospital setting. An official list of all healthcare workers employed at a tertiary hospital was requested from the Human Resources section. Upon receiving the official list, names were entered into an electronic roulette and randomized according to stratified category namely: Physicians, Nurses and Ancillary Services. This was used to randomly generate the sample size in each category yielding a total of 271 participants.

### Setting

Data were collected from July 15, 2023 to September 15, 2023 at Ospital ng Makati. Ospital ng Makati is a 300-bed capacity local government hospital in Makati. Two questionnaires were provided: the International Physical Activity Questionnaire Short Form (IPAQ-SF) and the Behavioral Regulation in Exercise Questionnaire (BREQ-2).

### Subjects

#### Inclusion Criteria

- Healthcare professionals in the following category:
  - Physicians

- Nurses
- Ancillary Services
  - Medical Technologists
  - Radiology Technologists
  - Physical Therapists
  - Respiratory Therapists
  - Occupational Therapists
  - Pharmacists
  - Aged 20 to 59 years old

#### Exclusion Criteria

- Presence of co-morbidity that will inhibit participant's capacity to do physical activity such as but not limited to persons with profound disability, stroke with residuals, decompensated heart failure, proliferative diabetic retinopathy, chronic obstructive pulmonary disease requiring oxygenation, poorly controlled bronchial asthma and those with any type of cancer.
- Pregnant and lactating healthcare workers

The researcher utilized random sampling in choosing the participants. In determining the sample size of the study, proportional allocation was used to set sample size in each stratum. As of June 1, 2023, Ospital ng Makati has a total of 916 healthcare workers which include physicians, nurses and those in ancillary services. The estimated sample size is 271 participants. Sample size for each category are as follows, Physicians: 133, Nurses: 73, Ancillary Services: 65. The confidence interval is at 95% and margin of error of 5.3 %.

#### Variables and Data Collection

Data were gathered through a self-administered questionnaire utilizing the International Physical Activity Questionnaire-Short Form (IPAQ-SF) and The Behavioral Regulation in Exercise Questionnaire (BREQ-2). IPAQ-SF is a validated and reliable tool that assesses the types of intensity of physical activity and sitting time that people do in the past seven days as part of their daily lives and is considered to estimate total physical activity in MET-min/week and time spent sitting. The BREQ-2 comprises of five subscales: (1) intrinsic; (2) identified; (3) introjected; (4) external; and (5) amotivation. The items have 5-point Likert scales ranging from 0 ("not true for me") to 4 ("very true for me") used to rate each of its 19 items with the generation of each subscale score based on mean score across subscale item. Healthcare professionals were classified as highly active, moderately active and low or inactive. The IPAQ-SF scoring system defines high level physical activity as 3 or more days of vigorous-intensity activity and at least 1500 MET-minutes per week or 7 days of any combination of walking, moderate intensity or vigorous intensity activities with at least 3000 MET-minutes/week. Moderate level physical activity is defined as 3 or more days with vigorous activity of at least 20 min or 5 or more days with any combination of walking, moderate- or vigorous-intensity activities equivalent to >600 MET minutes within the week. Low levels of activity or those considered inactive refers to individuals achieving

<600 MET minutes per week. The BREQ-2, a 19-item questionnaire that measures the levels of the self-determination continuum with respect to motivation to exercise with a 5 point Likert scale was used in the study. The BREQ-2 comprises of five subscales: (1) intrinsic; (2) identified; (3) introjected; (4) external; and (5) amotivation. The items have 5-point Likert scales ranging from 0 ("not true for me") to 4 ("very true for me") was used to rate each of its 19 items with the generation of each subscale score based on mean score across subscale item. A relative autonomy index (RAI) was also calculated. The RAI is calculated by weighting each subscale and summing the weighted scores: (amotivation multiplied by -3) + (external regulation multiplied by -2) + (introjected regulation multiplied by -1) + (identified regulation multiplied by 2) + (intrinsic regulation multiplied by 3). The minimum score for the RAI is -24 and the maximum score is +20. Higher positive scores for the RAI indicate more autonomous motivation whereas lower negative scores indicate less autonomous motivation. In brief, the RAI is the composite score of relative autonomy.

Participants were also asked to provide sociodemographic information (e.g. age, gender).

#### Statistical Analysis

Data was analyzed using Statistical Package for Social Sciences (SPSS) statistical software version 26. Descriptive statistics was used to summarize sociodemographic information, physical activity levels and BREQ-2 profiles. Internal consistency was assessed for each of the five BREQ-2 subscales using Cronbach's alpha coefficients. Scores on the BREQ-2 was compared across gender, healthcare professional category and levels of physical activity.

The scores were tabulated and analyzed through the use of the following statistical tools: percentage distribution, weighted mean and standard deviation. Statistical method used to analyze differences in gender was t-test while analysis of variance (ANOVA) was used for levels of physical activity and professional category. Homogeneity of variance was assessed using Levene's test. A post hoc test using Tuckey's honest significant difference test was used to analyze the pattern of difference between means.

#### Ethical Considerations

##### A. Informed Consent Process

Participants were given ample time to read the informed consent. The language of the informed consent form is in both English and Filipino that a 6th grade level will understand. The Filipino version of the informed consent was revised and proofread by a licensed Filipino teacher. Those who did not give their consent to participate were excluded from the study.

##### B. Privacy and Confidentiality

Only the participant's age, gender and profession were recorded in the study. Participant's name was not included. All data were entered on a password protected computer and database. Data were stored in a

locked cabinet of the researcher and will be maintained for a minimum of two years after the completion of the study.

C. Approval of Ethics Board

This research was approved by the Ospital ng Makati Ethics Board last March 20, 2023.

**RESULTS**

A total of 250 participants were confirmed eligible and were included in the study while 21 participants were excluded because they declined to consent their participation.

The ages of healthcare professionals ranged from 26 to 42 years old, qualifying under the young adult group age. More than half of all healthcare workers were female comprising of 56.40% while males were only at 43.60% (Table 1).

More than half of the physicians consists of Male with 57.26% while Nurses and Ancillary services have more female with 67.65% and 69.23%, respectively. Majority of healthcare professionals had moderate physical activity comprising of 43.20%. Among physicians, about 20.51% engage in high physical activity, 52.14% in moderate

activity, and 27.35% in low physical activity. The nurses and ancillary services personnel exhibit similar patterns where most of them are high in physical activity (41%, 38%) followed by moderate (both 35%) and low (23%, 26%). The mean physical activity met by healthcare professionals is 3604 MET- minutes per week.

The Cronbach’s alpha coefficient was done to check for internal consistency of the questionnaire for the given population. Each of the subscales has Cronbach’s alpha coefficient higher than 0.7. The intrinsic subscale has excellent reliability, the external subscale has good reliability, and identified, introjected, and amotivated have acceptable reliability. Given the results, intrinsic, identified, introjected, external, and amotivated subscales satisfied the internal consistency and reliability (Table 2).

Homogeneity of variance was assessed using Levene’s test where all showed a value of more than 0.05 which assumes that variances are not significantly different from each other.

Mean score of all healthcare professionals was high in RAI and Identified regulation.

Amotivation and intrinsic are shown to have significant differences between male and female healthcare professionals ( $p < 0.05$ ). Female healthcare professionals have a higher average in amotivation (mean=0.56) while males have a higher average in

**Table 1.** Age, gender and physical activity profile of healthcare professionals.

	<b>All Healthcare Professionals (N=250)</b>	<b>Physicians (N=117)</b>	<b>Nurses (N=68)</b>	<b>Ancillary Services (N=65)</b>
<b>Age – [mean (SD)]</b>	34.02 (8.09)	32.88 (5.89)	35.04 (8.87)	34.98 (10.23)
<b>Gender</b>				
Male – [n (%)]	109 (43.60%)	67 (57.26%)	22 (32.35%)	20 (30.77%)
Female – [n (%)]	141 (56.40%)	50 (42.74%)	46 (67.65%)	45 (69.23%)
<b>Physical Activity Categories</b>				
High physical activity [n (%)]	77 (30.80%)	24 (20.51%)	28 (41.18%)	25 (38.46%)
Moderate physical activity [n (%)]	108 (43.20%)	61 (52.14%)	24 (35.29%)	23 (35.38%)
Low physical activity [n (%)]	65 (26.00%)	32 (27.35%)	16 (23.53%)	17 (26.15%)
Physical activity MET-min/week [mean]	3604 minutes	2454 minutes	5253 minutes	3949 minutes

**Table 2.** Internal consistency of BREQ 2 in healthcare professionals.

<b>BREQ 2 Item</b>	<b>BREQ 2 Subscale</b>	<b>Cronbach’s Alpha (95% CI)</b>
4,10,15,18	Intrinsic	0.914
3,8,14,17	Identified	0.754
2,7,13	Introjected	0.765
1,6,11,16	External	0.82
5,9,12,19	Amotivated	0.768

**Table 3.** BREQ2 scores: Comparison of exercise regulations (N).

	RAI		Amotivation		External		Introjected		Identified		Intrinsic	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
<b>All Healthcare Professionals</b>	8.62	2.87	0.48	0.70	0.90	0.93	1.73	1.14	2.86	0.81	2.65	1.06
<b>Gender</b>												
<b>Male</b>	8.81	2.96	0.38	0.62	0.85	0.92	1.80	1.22	2.97	0.84	2.82	1.10
<b>Female</b>	8.47	2.80	0.56	0.75	0.94	0.93	1.68	1.08	2.77	0.79	2.52	1.02
<b>Homogeneity (Levene's Test)</b>	0.277		0.066		0.749		0.059		0.350		0.283	
<b>Significance (T-Test)</b>	0.349		<b>0.042*</b>		0.459		0.414		0.058		<b>0.028*</b>	
<b>Profession</b>												
<b>Physicians</b>	8.65	2.71	0.30	0.55	0.86	0.88	1.81	1.19	2.96	0.76	2.72	1.07
<b>Nurses</b>	8.65	3.19	0.63	0.83	0.96	1.00	1.62	1.14	2.83	0.86	2.62	1.00
<b>Ancillary Services</b>	8.52	2.85	0.66	0.71	0.90	0.93	1.70	1.06	2.71	0.85	2.55	1.12
<b>Homogeneity (Levene's Test)</b>	0.445		0.060		0.435		0.501		0.615		0.388	
<b>Significance (ANOVA)</b>	0.950		<b>0.001*</b>		0.785		0.530		0.144		0.569	
<b>Difference (Tukey's)</b>			physician and nurse (p-value = 0.006), physician and ancillary services (p-value = 0.003)									
<b>Physical Activity Classification</b>												
<b>High</b>	9.35	3.06	0.59	0.77	0.95	0.98	2.02	1.17	2.97	0.91	2.81	1.13
<b>Moderate</b>	8.90	2.69	0.43	0.67	0.86	0.95	1.80	1.15	2.97	0.80	2.84	1.03
<b>Low</b>	7.27	2.49	0.45	0.65	0.90	0.83	1.26	0.96	2.53	0.62	2.13	0.85
<b>Homogeneity (Levene's Test)</b>	0.431		0.230		0.147		0.253		0.076		0.091	
<b>Significance (ANOVA)</b>	<b>0.000*</b>		0.260		0.800		<b>0.000*</b>		<b>0.000*</b>		<b>0.000*</b>	
<b>Difference (Tukey's)</b>	low and high (p-value=0.001), low and moderate (p-value=0.000)						low and high (p-value=0.005), low and moderate (p-value=0.000)		low and high (p-value=0.001), low and moderate (p-value=0.004)		low and high (p-value=0.001), low and moderate (p-value=0.000)	

RAI= Relative Autonomy Index; Results are shown as Mean ± SD \*p < .05

intrinsic (mean=2.82). The averages of RAI, external, introjected, and identified subscales between male and female professionals are not significantly different.

In amotivation subscale, there are significant differences in scores among physicians, nurses, and ancillary services (p<0.05). Nurses and ancillary services have higher average amotivation scores than physicians. All the p-values of physicians, nurses, and ancillary services in RAI, external, introjected, identified, and intrinsic are higher than 0.05 where the differences are not significant.

The physical activity classifications of healthcare professionals have significant differences in RAI, introjected, identified, and intrinsic scores (p-values<0.05). Professionals who have high classification in physical activity have the highest average scores. Moderate classifications have the second-highest average scores. Amotivation and external subscales have no significant differences among high, moderate, and low physical activities classifications.

After doing an analysis of variance (ANOVA), a post hoc test using Tuckey's honest significant difference test was used to analyze the pattern of difference between means that yielded a significant result. It was noted that in Amotivation, there was a significant difference between physicians and nurses and between physicians and ancillary services (p<0.05) . In RAI, introjected, Identified and intrinsic subscales, there was a significant difference between low and high physical activity and between low and moderate physical activity (p<0.05) (Table 3).

## DISCUSSION

The majority of health care workers included in the study reported moderate physical activity and only less than a third were classified as having high physical activity.

Among the healthcare workers, majority of nurses and those from the ancillary services had high physical activity. While for physicians, majority had moderate physical activity and less than a quarter were classified as having high physical activity. Most healthcare professionals presented an adequate level of physical activity. This is inconsistent with another study by Saad et.al (2020) where 45.6% of healthcare workers were inactive.<sup>15</sup>

In a qualitative study by George et. al (2021), it was stated that all thirty doctors included in their study expressed that a lack of time was a major barrier to physical activity. Some doctors included in the study admitted that even though they may have some free time from their busy schedule, they would prefer to utilize it for relaxation rather than spend it on physical activity.<sup>16</sup> However, in another study by Marques-Sule et. al (2021), their results were similar to this study where 96% of healthcare workers had high physical activity.<sup>17</sup> However, they used a different questionnaire and was able to note that the high physical activity was due to being physically active at work termed as 'work-related physical activity'. This may also be the case in the present study.

Majority of nurses and ancillary services reported high physical activity however, they also had a higher average of amotivation compared to doctors. The study by Chappel et.al (2017) stated that nursing work predominantly comprised of light intensity physical activity interspersed with moderate intensity tasks. In the nine studies included, they observed that majority of a nurse's shift was spent either standing or walking while completing direct patient care tasks.<sup>18</sup> In another study by Neil-Sztramko et.al (2017), it was reported that physiotherapists in public practice reported more total occupational physical activity and had higher measured occupational physical activity than private practice physiotherapists. Public practice physiotherapists who work in a hospital setting may have more opportunity to walk for sustained periods throughout their workday because the hospital setting typically spans a larger geographic distance than a private clinic.<sup>19</sup> This may therefore largely contribute to the overall recorded physical activity of nurses and those in the ancillary services but was not necessarily a self-determined physical activity. On the topic of exercise regulations among healthcare professionals, female healthcare professionals have a higher average in amotivation, while males have a higher average in intrinsic motivation. George, et al (2021) noted that female healthcare workers in the study stated that they faced more shortage in time than male counterparts since they have to juggle between work and home chores.<sup>16</sup> The study by Edwards, et al (2016) stated that males reported higher levels of moderate to vigorous physical activity as well as higher levels of exercise coping and scheduling efficacy. Males were noted to have more belief in one's ability to plan for and remain active in the face of internal and external barriers and obstacles.<sup>20</sup> The study conducted among college students by Lauderdale, et al (2015) revealed a similar result that male students have significantly higher levels of intrinsic motivation compared with females.<sup>21</sup> These findings suggest that males are more engaged in physical activity because of internal factors, such as benefits received from exercise, stimulation, and enjoyment, compared with females. When examining the subscales of the BREQ-2 the scores for the identified and intrinsic regulation subscales increased along with increasing levels of physical activity. Health care workers who have high classification in Physical activity

have the highest average scores in terms of RAI, introjected, identified, and intrinsic scores. This demonstrates a positive association between internal regulation and increased physical activity. This was found to be similar in a study conducted by Mahony et. al (2018), that showed that subscales of the BREQ-2 scores for the identified and intrinsic regulation subscales increased incrementally with increasing levels of physical activity (low to high level) demonstrating a positive association between internalized regulations and increased activity levels.<sup>22</sup>

Results of a study by Geller, et al. (2018) showed that both intrinsic and extrinsic motivations impact habitual physical activity<sup>23</sup> and that further research is needed to clarify the impact of one's motives to sustain regular physical activity

## Limitations

Recall bias and self-report is an important limitation of this study. The questionnaire for physical activity only measured the participant's physical activity in the past seven days and may therefore be not reflective of overall physical activity as this may change based on clinic schedule, shift schedule, patient load and other activities of the health care workers. Another limitation of this study is that it did not allow the distinction of whether the physical activity done by the participants were leisure-based or occupational in nature.

## CONCLUSION

This study concludes that majority of the healthcare workers in a hospital setting is physically active with a moderate level of physical activity. This may strengthen their credibility when promoting physical activity and healthy behaviors to their patients. A positive relationship between self-determined motivation and reported physical activity levels were identified. It was noted that those with high physical activity also demonstrated high levels of internal motivation and high autonomy to do physical activity. It was also noted that there were differences in motivation between gender noting that more female healthcare workers are amotivated compared to male and more male healthcare workers are intrinsically motivated compared to female. The internal consistency results of the BREQ 2 subscales offer a foundation for further research and practical applications in understanding and enhancing exercise motivation among healthcare professionals. Researchers and practitioners can make informed decisions based on the reliability of the questionnaire items and their associations with specific motivational factors, ultimately contributing to the well-being of healthcare professionals and the quality of patient care.

This research can serve as an avenue for future exercise programs conducted for healthcare workers. It may be used as an overview of healthcare workers' level of physical activity and motivation to do so. Programs can be redirected to strengthen these motivations ultimately improving overall health. The researcher also highly recommends conducting a similar study in multi-centers in the Philippines focusing on a specific line of healthcare workers to get a better glimpse of the motivation towards physical activity of health care workers across the nation. It is also recommended to include other factors that affect motivation and level of physical activity such as body mass index,

economic status and accessibility of areas for physical activity. The researchers would also like to recommend that the questionnaires used in this study be translated and validated in the Filipino language so that it may be used in the general population. This will greatly help in assessing motivation towards physical activity in the general public and be an invaluable insight on how doctors and allied health practitioners can assist in motivating their patients to lead a more active and healthier lifestyle.

#### Conflict of Interest

There was no identified conflict of interest in conducting the study.

#### REFERENCES

- World Health Organization. Obesity and Overweight. 2021 June 9. <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>
- Statista. Obesity increases the risk for severe diseases and health conditions such as hypertension, stroke, and type 2 diabetes.2022. <https://www.statista.com/statistics/1363273/philippines-obesity-rate-by-age/>
- Rana KA. Trends in the prevalence of overweight and obesity and associated socioeconomic and household environmental factors among women in Nepal: Findings from the Nepal Demographic and Health Surveys. *Obesities*. 2021; 113–35.
- Ramachandran A & Snehalatha C. Rising burden of obesity in Asia. *J Obesity* 2010;1-8.
- Hasson RA, Coleman N, Kaushal N, Nocera VG, Keith N. COVID-19: Implications for physical activity, health disparities, and health equity. *Am J Lifestyle Med* 2022; 420-33.
- Lee I.-MA, Lobelo F, Puska P, Blair SN & Katzmarzyk PT. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet* 2012; 380: 219–29.
- Lee PH, Macfarlane DJ, Lam T, et al. Validity of the international physical activity questionnaire short form (IPAQ-SF): A systematic review. *Int J Behav Nutr Phys Act* 8.2011;115
- Molanorouzi K, Morris T. Motives for adult participation in physical activity: type of activity, age, and gender. *BMC Public Health* 2015; 15: 66.
- Verloigne MA, Tanghe A, D’Hondt E, Theuwis L, Vansteenkiste M & Deforche B. Self-determined motivation towards physical activity in adolescents treated for obesity: an observational study. *Int J Behav Nutr Phys Activity* 2011; 8: 97.
- Ackerman, Courtney. Self- Determination Theory of Motivation: Why Intrinsic Motivation Matters.2018.
- Brooks JM, Kaya C, Chan F, Thompson K, Cotton BP, Sánchez J, Fortuna K. Validation of the behavioural regulation in exercise Questionnaire-2 for adults with chronic musculoskeletal pain. *Int J Ther Rehabil* 2018; Aug 2;25(8): 395-404.
- Howard J, Gagne M, den Broeck A, Guay A, Chatzirantis N, Ntoumanis N, Pelletier L. A review and empirical comparison of motivation scoring methods: An application to self- determination theory. *Springer Nature* 2020.
- Lobelo F, de Quevedo IG. The evidence in support of physicians and health care providers as physical activity role models. *Am J Lifestyle Med* 2016 Jan;10(1):36-52.
- Younis Joma, Jiang Hong, Fan Yahui, et al. Prevalence of overweight, obesity, and associated factors among healthcare workers in the Gaza Strip, Palestine: A cross sectional study, *Frontiers in Public Health* 2023; 11.
- Abu Saad H, Low PK, Jamaluddin R, Chee HP. Level of physical activity and its associated factors among primary healthcare workers in Perak, Malaysia. *Int J Environ Res Public Health* 2020 Aug 16;17(16): 5947.
- George LS, Lais H, Chacko M, Retnakumar C, Krishnapillai V. Motivators and barriers for physical activity among healthcare professionals: A qualitative study. *Indian J Comm Med* 2021 Jan-Mar;46(1): 66-9.
- Marques-Sule E, Miró-Ferrer S, Muñoz-Gómez E, et al. Physical activity in health care professionals as a means of primary prevention of cardiovascular disease: A STROBE compliant cross-sectional study. *Medicine (Baltimore)*.2022.
- Chappel SE, Verswijveren SJJM, Aisbett B, Considine J, Ridgers ND. Nurses’ occupational physical activity levels: A systematic review. *Int J Nurs Stud* 2017 Aug; 73:52-62.
- Neil-Sztramko SE, Ghayyur A, Edwards J, Campbell KL. Physical activity levels of physiotherapists across practice settings: A cross-sectional comparison using self-report questionnaire and accelerometer measures. *Physiother Can* 2017; 69(2): 152-60.
- Edwards ES, Sackett SC. Psychosocial variables related to why women are less active than men and related health implications. *Clin Med Insights Women’s Health* 2016.
- Lauderdale M & Yli-Piipari S & Irwin & Layne T. Gender differences regarding motivation for physical activity among college students: A self-determination approach. *The Physical Educator*.2015.
- Mahony R, Blake C, Matthews J, Donnoghue GO, Cunningham C. Physical activity levels and self-determined motivation among future healthcare professionals: Utility of the Behavioral Regulation in Exercise Questionnaire (BREQ-2). *Physiother Theory Pract* 2018.
- Geller K, Renneke K, Custer S, Tigue G. Intrinsic and extrinsic motives support adults’ regular physical activity maintenance. *Sports Med Int* 2018.