



## Original Research Article

# Determining the physical activity level and social media addiction of physiotherapy and rehabilitation students who receive online education during the Covid-19 pandemic

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## ABSTRACT

**Background:** Every individual was affected by the new life coming from Covid-19 pandemic. The lives of university students changed quickly and gradually as they found themselves while learning all courses from the screens. This study was carried out in order to examine the effects of students' continuing education from home on their physical activity levels and attitudes towards social media and to determine their relations with each other.

**Study Design:** A cross-sectional study.

**Materials and Methods:** An online survey was conducted with the participation of 211 volunteer university students (female = 99). Questionnaires and qualitative questions were used to collect data.

**Results:** It was determined that 67.8% of the participants were physically active at a moderate level. It was determined that the perceived duration of social media usage increased compared to before and after the pandemic ( $p=0.000$ ). Social media addiction of 63% of individuals was not found to be risky. There was no significant relationship between physical activity levels and social media addiction levels ( $r=0.069$ ,  $p>0.05$ ).

**Conclusions:** Considering that students' various activities such as going to and from university and social life are limited during the pandemic process, it is possible that their physical activities have decreased, and they are directed to social media tools. Despite these, we think that most of the students can use physical activity strategies and create regular exercise environments at home, considering that they are aware of the importance of physical activity with their education in physiotherapy department.

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## 1. Introduction

Physical activity is expressed as the activities that occur in daily life by using the skeletal muscles, which increase the heart and respiratory rate and result in exhaustion of various intensities. Many self care activities like dressing and eating and all bodily movements like walking to school and sports

branches that cover all or part of the main body movements such as running, cycling, and dancing are some types of physical activity.<sup>1</sup>

Covid-19 is a viral disease thought to have first appeared in the animal market in Wuhan, China. In addition to people aged 65 and over, who are stated as the most affected age group by Covid-19 disease, the importance of young people in social protection was also mentioned, since the epidemic also affects young masses, as well as being defined

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as carriers. The highly contagious Covid-19 pandemic has created panic and anxiety around the world, countries have temporarily suspended face-to-face education processes to support the call to "stay at home", instead, students were supported to receive online education. In this case, in line with the decision taken by the countries, many solutions have been recommended to continue the education uninterrupted, and the relevant materials have been adapted to the digital platform, provided that the continuity of the education is ensured.<sup>2</sup>

Many people had to live in isolation during the pandemic, and in this context, internet user has become a need to both fulfill their roles and spend time.<sup>3</sup> People can access the information and explanations they need much faster, communicate, play games via the internet, watch movies and series, and buy or sell products or services. Internet has these advantages, but also causes big problems. The most important of these is seen as social media addiction. Individuals are negatively affected in their private, business and educational lives and cannot fulfill the responsibilities due to the risky levels of addiction.<sup>4</sup>

Internet use has become an important condition for university students due to the pandemic, and this may cause physical inactivity. Especially physiotherapy and rehabilitation department students need to take notes while listening to lectures. The key features of the practices and the lecturer's clinical experiences are not included in the lecture notes or books, so the student should actively listen and take notes. Although the multiple benefits of physical activity are known on students,<sup>5</sup> the effects of restrictions applied for social isolation due to the pandemic process on their physical activity levels have been investigated in many studies<sup>5-7</sup> with the cause of the pandemic and online education, the decrease in physical activity and the addiction of young people to social media appear to be a disturbing situation.<sup>8</sup>

Although the online education brought by social isolation and quarantine due to the pandemic with the effect of Covid-19 is seen as an advantage for students to continue their uninterrupted education, it reveals many disadvantages such as the same position for a long time and a monotonous life. As a result of these disadvantages, pain, limitation of movement, psychological exposure, decrease in productivity and quality of life are observed. Students' continuing their education from home on the computer can also decrease their sense of responsibility and increase their social media curiosity since they are on the internet.<sup>9</sup> Only a few papers investigated the relationship between physical activity and social media addiction, but their outcome measures and populations had some inadequacies.<sup>10,11</sup> Accordingly, the aim of this study is to determine the physical activity levels and social media addiction levels of physiotherapy and rehabilitation students who receive online education during the pandemic and to investigate the

relationship between them.

## 2. Materials and Methods

The research was planned in 2020 and data collection took place during the fall semester of the 2020-2021 education period. Data collection was limited to 48 hours. In this process, questionnaires were sent to 254 university students who study in the Department of Physiotherapy and Rehabilitation between the ages of 17-35. University students who received distance education and used social media during the pandemic process were included in the study. Students who were not university students, did not use social media, and had any physical problems that prevented participation in physical activity were not included. 15 people did not agree to participate in the study. 28 people were excluded due to missing data entry. 211 students, 99 women and 112 men, constituted the sample of the study.

Data collection was provided online via the inquiry form prepared on Google-Form. The individuals participating in the study were informed about the purpose of the researcher and were asked to approve the voluntary consent form.

After asking the age and gender, some structured questions like the use technological equipment to access social media, the most widely used social media platform (such as facebook, instagram), physical activity before the pandemic, and change in the duration of social media use after the pandemic were asked and recorded.

### 2.1. Level of physical activity

In this study, the International Physical Activity Questionnaire (IPAQ) short form was used to determine the physical activity levels of individuals. The calculation of the total score for the short form includes the total duration (minutes) and frequency (days) of walking, moderate activity, and vigorous activity. The energy required for activities is calculated with the MET-minute score, and the level of physical activity is low (0-600 MET-min / week), medium (600-1500 MET-min / week) and high-level/vigorous (1500 and above MET-min / week). Its validity and reliability was performed by Craig et al.<sup>12</sup> Validity and reliability studies of its Turkish version were conducted by Saglam et al.<sup>13</sup>

### 2.2. Social media addiction

Bergen Social Media Addiction Scale consists of six items. Each item in the scale meets six basic addiction criteria: salience, mood modification, tolerance, withdrawal, conflict, and relapse. The scale is answered according to the five-point Likert-type grading as (1) Very rare, (2) Rare, (3) Sometimes, (4) Frequently, (5) Quite often. The total score of the scale varies between 6-30 and as the scores increase, addiction increases. It has been shown that 19 is the cut-off value and values of 19 and above are risky scores.<sup>14</sup>

Validity and reliability studies of its Turkish version were demonstrated by Demirci.<sup>15</sup>

### 2.3. Statistical analysis

SPSS 20.0 (Statistical Package for the Social Sciences) package program was used for the statistical analysis of the study. Evaluation parameters were presented as arithmetic mean ( $\bar{x}$ ), standard deviation (ss), frequency (f) and percentage (%) values. While evaluating the relationship, according to Wilcoxon test, the total scores of the International Physical Activity Questionnaire did not comply with the normal distribution, and the total score of the Bergen Social Media Addiction Scale showed the normal distribution so Spearman Correlation Analysis was used. A value below  $p < 0.05$  was considered significant.

### 3. Results

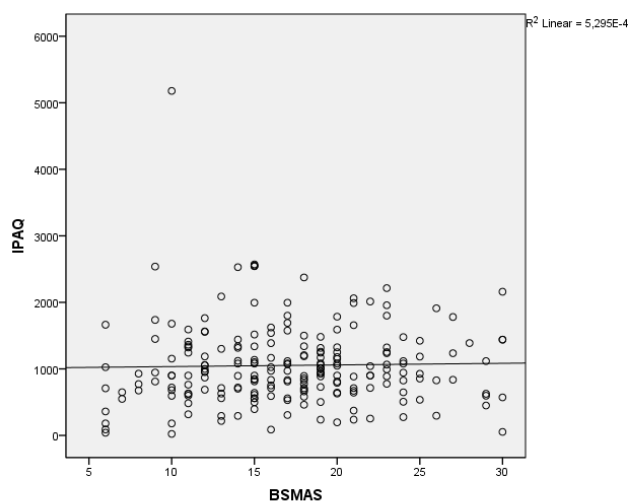
The mean age of 211 individuals participating in the study was determined as  $21.47 \pm 2.4$  years. Table 1 shows the frequency values of the descriptive data about the changes in the social media use and physical activities of the students during online education semester of pandemic. According to Table 2, the mean of the total score was 1052.10 (MET / day / min) in the IPAQ, while the mean of the total score was found to be 17.08 in the Bergen Social Media Addiction Scale. In Table 3, it was shown that 67.8% of the participants had moderate level of physical activity and 37% of them had a risky level of social media addiction.

The relationship between the total score of the International Physical Activity Questionnaire (abnormal distribution) and the total score (normal distribution) of the Bergen Social Media Addiction Scale was evaluated by Spearman correlation analysis, and no relationship was found between them ( $p=0.321$ ,  $r=0.069$ ) (Figure 1).

### 4. Discussion

80% of the individuals stated that their use of social media increased and 74% of them restricted their physical activities. Still, while most of them had a moderate physical activity level, social media addiction was not found to be risky for the majority. Despite this, the addiction level of 37% of the students was found to be risky. There was no significant relationship between physical activity level and social media addiction.

After the World Health Organization declared a pandemic, in many countries, and the first cases were determined in Northern Cyprus, universities started to teach their courses online. This causes university students to be immobile for long times on the computer or in front of other tools to teach lessons as the physiotherapy lectures have both theory and practice based intensive courses. Before the pandemic, students had many practice times to experience these practices on each other, but in the pandemic, they



**Fig. 1:** The correlation between total IPAQ scores and total BSMAS scores

IPAQ: International Physical Activity Questionnaire,  
BSMAS: Bergen Social Media Addiction Scale

just tried to make some practice on baby dolls in front of the screens. Students who experience stress and depression because they stay at home and have online education for long times would turn to social media and use social media channels. This might increase physical inactivity and social media addiction.

Social media has many advantages in today's life. However, it is known that people lose their control when we look at the way and manner of using this technology and its use for long periods causes serious harm to people.<sup>16</sup> In recent studies, it is seen that people's internet addiction has increased to high levels.<sup>17</sup> As a result of the inactivity that emerged in parallel with social media addiction, the time spent by students for social activities in non-virtual environments has decreased considerably. It is important that social media addiction should be perceived as a threat and a solution plan against this addiction should be activated.<sup>8</sup>

Before the pandemic, the social media environment offers young individuals various important opportunities such as communicating with their family or friends, adventure, living different lifestyles, advancing to the next level in games and increasing people's dependence on social media.<sup>18</sup> However, due to the attractiveness of outside social activities, and other activities which students had to continue outside, there were many factors that would increase their physical activity before the pandemic. In the pandemic, with the online education and social isolation conditions, internet use and social media have almost become the center of life.<sup>19,20</sup> The rate of students who stated that social media use increased and their physical activities were

**Table 1:** The frequency values of the collected data

		<b>F</b>	<b>%</b>
<b>Gender</b>	Woman	99	46.9
	Man	112	53.1
<b>The most preferred social media platform</b>	Facebook	14	6.6
	Instagram	155	73.5
	Twitter	21	10.0
<b>Regular physical activity before pandemic</b>	Other	21	10.0
	Yes	130	61.6
<b>Change in the duration of social media use in pandemic</b>	No	81	38.4
	Increased	169	80.1
	No change	42	19.9
<b>Change in the physical activity in pandemic</b>	Decreased	155	73.5
	No change	59	26.5

F: Frequency, %: Percentage

**Table 2:** Physical activity and social media addiction descriptive findings

	<b>x</b>	<b>sd</b>	<b>Range</b>
International Physical Activity Questionnaire Total Score (MET/day/min)	1052.10	605.489	23-5178
Bergen Social Media Addiction Scale Total Score	17.08	5.688	6-30

X: mean, SD: Standart deviation

**Table 3:** Classification of physical activity levels and risk status of social media addiction

		<b>f</b>	<b>%</b>
<b>Level of Physical Activity (IPAQ)</b>	Low Physical Activity	38	18.0
	Medium Physical Activity	143	67.8
	Vigorous Physical Activity	30	14.2
<b>Risk Classification of social media addiction (BSMAS)</b>	Risky	78	37.0
	No risk	133	63.0
	Total	211	100.0

IPAQ: International Physical Activity Questionnaire,

BSMAS: Bergen Social Media Addiction Scale

F: frequency, %: percentage

restricted compared to the pre-pandemic was in the majority. Considering that students' various activities such as going to and from university and social life were limited during the pandemic process, it was an expected result that their physical activity decreased and they turned to social media tools. It is important that a significant portion of students up to 40% are also at risk of social media use addiction, and in this context, it is important to warn students and investigate their effects.

Various studies investigating how social media use has changed during the pandemic process and its effects have been conducted.<sup>21,22</sup> As a common finding, the use of social media has increased during the Covid-19 pandemic and when the psychological and mental effects of this increase are examined, especially unreal news about the disease shared in the social media may result in higher anxiety levels.<sup>21,22</sup> Moreover, in this process, there are many studies showing how physical activity is affected and its mental effects,<sup>23,24</sup> but its relationship with social media or internet use has not been investigated. Accordingly,

our paper showed that there was no relationship between physical activity level and social media addiction.

Conversely, in the study conducted by Brailovskaia et al.,<sup>10</sup> in which 211 people with an average age of 22 years were included, there was significant relationship between physical activity and social media addiction. Bergen Social Media Addiction Scale was used in their studies for social media addiction, whereas they used a different questionnaire for physical activity. The other important difference with our paper, their research was conducted in the 2019-2020 Spring semester when is the first semester of pandemic. In another study that included 638 individuals with an average age of 21 in Germany, they found a relationship between physical activity and social media addiction, contrary to our findings.<sup>11</sup> They expressed that more physical activity tends to be less stress and social media addiction. Since these results differ from our result, the reason may need to be questioned in future studies. Again, even though the use of social media has increased in our study, the student community educated with the awareness of physical activity

may be taking care not to neglect physical activity.

Since our research provides online and questionnaire-based data, it is limited in terms of reliability as measurements with more reliable devices like accelerometers make the findings more valuable. In addition, the physical activity questionnaire contains questions for the last week. Our sample size was limited by limiting data collection to 48 hours in order to ensure that the course intensity of the students coincided with the same period of education semester.

According to our results, it will be important to make the necessary information and warnings for young individuals, and to examine the factors related to their effects in future studies, as it is seen that a significant proportion of the students have social media addiction risk. Despite statements about the increase in social media use and restriction of physical activity, the results in terms of physical activity level are not worrying. It can be thought that the biggest reason for this is that students are conscious of the importance of physical activity with the physiotherapy department they receive education. In addition, many of them can use physical activity strategies at home, dormitory etc. We are of the opinion that it can create opportunities for regular exercise in any environment. The lack of a relationship between social media addiction and physical activity levels in this process should also be examined and supported with different student groups and larger samples in future.

## 5. Conflict of Interest

No conflict of interest

## 6. Source of Funding


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