



## General Characteristics Related to Exercise Addiction in South Korean Firefighters

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### Dear Editor-in-Chief

Despite the challenging conditions they work in, South Korean firefighters have shown unwavering dedication to their job. Their mental health, however, has become a serious concern over the past five years. In 2016, 364 firefighters sought treatment for depression, a number that surged to 650 by 2020. The number of firefighters experiencing post-traumatic stress disorder (PTSD) also rose from 37 to 67 (1). This increase is directly linked to their high job stress, placing them in the occupation group with the highest stress levels (2).

They participate in various types of exercise to overcome psychological trauma; nonetheless, overexercise can lead to exercise addiction. Exercise addiction is an area substantially equipped with both positive and negative effects of exercise on a personal life. It also impacts job satisfaction and other variables according to the occupation groups and the general characteristics of exercise events in which they participate.

We aimed to investigate South Korean firefighters' general characteristics related to exercise by exercise addiction status and share the results with public health researchers.

A survey was conducted on 119 firefighters in Busan Metropolitan City, South Korea, from March to August 2024. Adams's questionnaire (3) regarding exercise behavior was used to rank factors on a 6-point Likert scale. Subjects were classified into non-exercise addiction, positive exercise addiction, and negative exercise addiction groups, while exercise goals, types, frequency, and duration were investigated as general characteristics related to exercise.

As for the exercise addiction rate of firefighters, 14 (11.8%) were in the non-exercise addiction group, 89 (74.8%) in the positive exercise addiction group, and 16 (13.4%) in the negative exercise addiction group. As for the general characteristics related to exercise, the exercise goal was health (40%), self-satisfaction (23%), help in job (14%), stress reduction (22.6%), and others (0.4%); exercise types included fitness (29.9%), walking (20.1%), running (14.4%), mountaineering (8.3%), swimming (7.6%), and others (19.7%). There were significant inter-group differences in the number of times for exercise (per week):  $1.35 \pm 0.84$  in the non-exercise addiction group,  $2.05 \pm 1.22$  in the positive exercise addiction group, and  $3.06 \pm 1.43$



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in the negative exercise addiction group. The post-test showed that the frequency of exercise is significantly higher in the negative exercise addiction group than in the non-exercise addiction and positive exercise addiction groups. There were significant inter-group differences in the duration of exercise (per session):  $1.43 \pm .65$  hours in the non-exercise addiction group,  $1.89 \pm .55$  hours in the positive exercise addiction group, and  $2.62 \pm .81$  hours in the negative exercise-dependence group. The posttest showed that the duration is significantly longer in the negative exercise addiction group than in the other groups and significantly longer in the positive exercise addiction group than in the non-exercise addiction group.

These findings suggest that exercise addiction is a significant issue among South Korean firefighters, and understanding the general characteristics related to exercise can help in designing effective interventions.

In conclusion, South Korean firefighters' damaging exercise addiction tended to increase the frequency and duration of exercise. These results are expected to help continue public health research

on exercise addiction and exercise-related characteristics in firefighting officials and contribute to improving their socio-psychological health.

### Conflict of interest

The authors declare that there is no conflict of interest.

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