



## Physical Injury Experience and Safety Regulations Compliance According to Korean College Students' Use of Shared Electric Kickboards

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### Dear Editor-in-Chief

The use of personal mobility (PM), namely electric kickboards, has been rapidly increasing due to shared mobility service diffusion and increased social interest in eco-friendly transportation in Korea (1). The number of college students using electric kickboards is gradually increasing in some areas of Korea, including Seoul and Busan, as the electric kickboard-sharing service is quickly spreading.

Due to the generalization of sharing service through mobile apps, easy rental and returning, and dockless mode by which parking area is not designated, electric kickboards have changed the transportation system, and the service has become popular among college students (2). However, they are emerging as a social problem in Korean society because of soaring accidents, including an over two-fold increase, compared to 2019, based on 2020, along with the inconvenience of walking and increased accident risk between kickboard riders and pedestrians.

This study is expected to provide preemptive information to establish sound safety culture and prevent accidents according to the use of shared electric kickboards for global college students, including Korean college students, by examining physical injury experience and safety regulation

compliance targeting college students in Korea, where shared electric kickboard use frequency is growing.

We targeted 154 college students who had used electric kickboards in Busan, where Korea's shared electric kickboard service is supported, and who understood the purpose of this study and agreed to participate in the study in 2022. As items to evaluate the use situation of the shared electric kickboards, the number of weekly use and mean use time per use were investigated. To find out the status of physical injury experience, the status of physical injury experience and the number of physical injury experiences were examined. Regarding safety regulation compliance, the status of wearing a safety helmet, the status of wearing safety goods except for a safety helmet, the status of walking on the right on the road, and the status of one person riding were checked. The measured questionnaire survey data, descriptive statistics, and frequency analysis were performed using SPSS 23.0 Windows (IBM Corp., Armonk, NY, USA).

According to the study results, the mean weekly use of shared electric kickboards was  $1.81 \pm 1.07$  times of riding, and the mean use time per use was  $12.48 \pm 6.70$  minutes. Regarding physical inju-



ry experience, 26.3% of users had physical injury experience. Concerning the number of experiences once was 46.3%, twice 22.0%, three times 5.1%, and four times or more 3.2%. As for safety regulation compliance, wearing a safety helmet was 13%, and non-wearing was 87%. Concerning wearing safety goods except for safety helmets, wearing and non-wearing showed 5.2% and 94.2%, respectively. As for walking on the right on the road, compliance was 34.4%, and non-compliance was 65.6%. Regarding the status of one person riding, one person was 83.1%, and more than one person was 16.9%.

This study could check Korean college students' shared electric kickboard use situation as shown above and found that many users experienced physical injuries. In safety regulation compliance, the warning ratio of safety goods except safety helmets was meager, and safety regulation compliance was deficient overall.

Through this study, the situation of physical injury experience and safety regulation compliance could be confirmed according to Korean college students' shared electric kickboard use. The study

results might be used as study data offering public health information for healthy use culture establishment and the relevant accident prevention concerning the shared electric kickboard use of global college students, including Korean college students.

### Conflict of interest

The authors declare that there is no conflict of interests.

### References

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